Trains

JANUARY 1943

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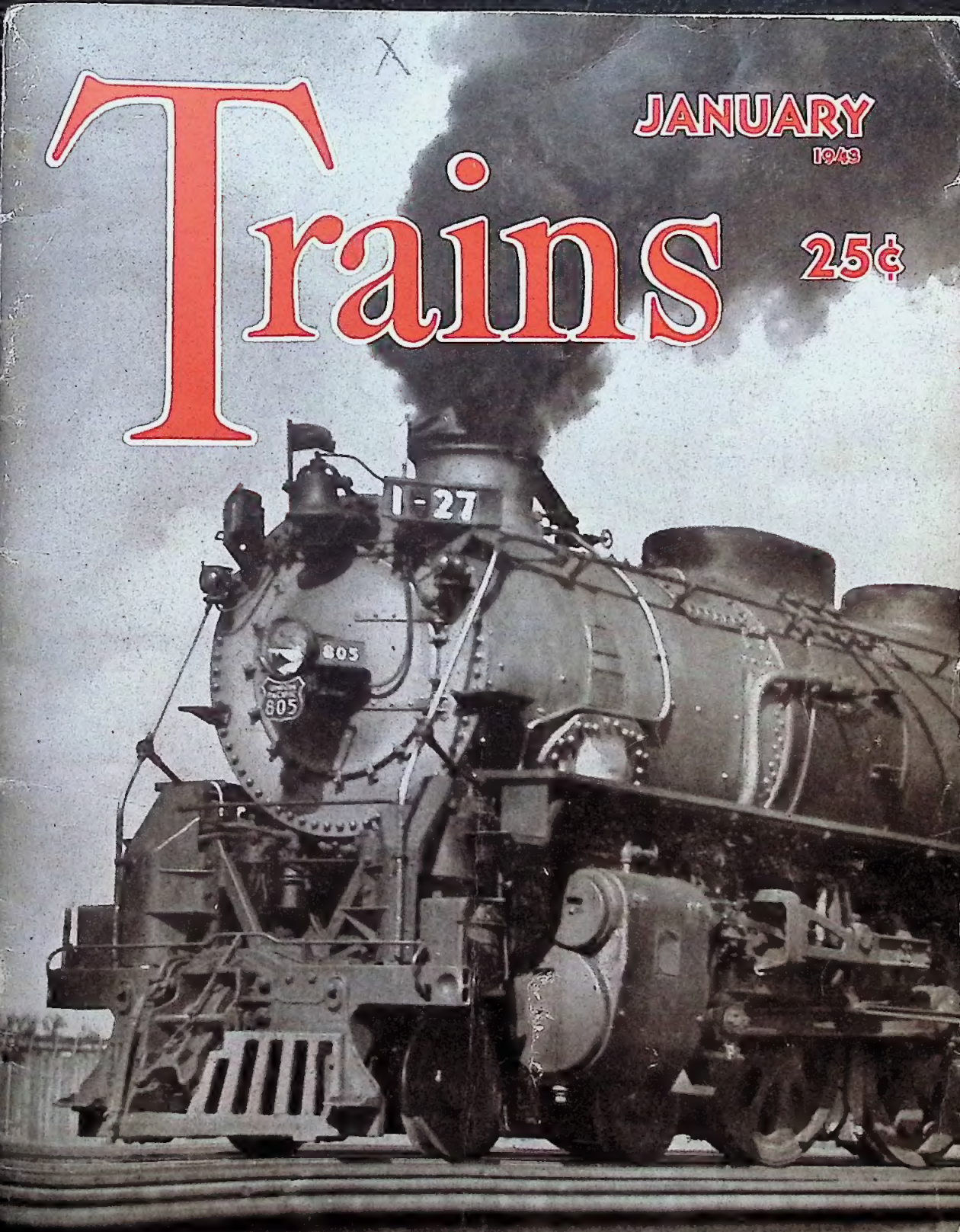
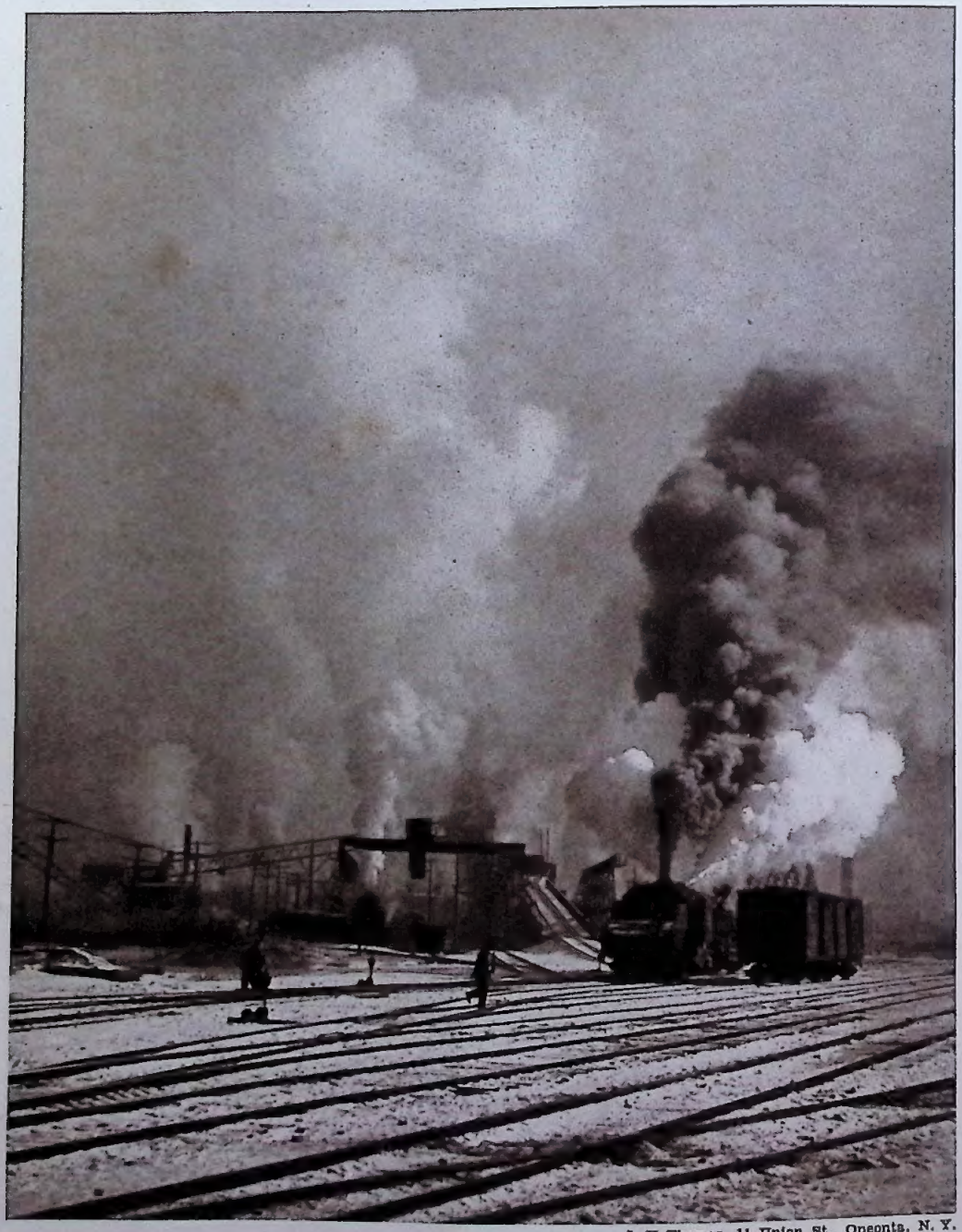


Railroads and Railroad Travel



J. H Thomas, 11 Union St., Oneonta, N. Y.

"Steam Up" at Oneonta on the D&H.

Steam and smoke on a cold January day make an interesting pattern at the Oneonta, N. Y., yards of the Delaware & Hudson. Oneonta is headquarters of the D&H's Susquehanna Division. The photo was first-prize winner in a railroad photography contest held in connection with National Model Railroad Association convention at Peoria, Ill., a year ago.

Waybills

The American railroads are the world's greatest example of cooperative organization. Because of their standard gauge and standard fittings such as couplers, brakes and safety appliances, and also because of highly organized methods of car accounting and billing, a freight car can be loaded at any siding or station on the continent and be delivered to any other siding or station—a fact not true of any other place in the world. Yet all this was organized so many years ago that most of us take it for granted.

Railroad freight transportation costs $232 per year for each person in the country, which isn't so much when we consider that for each of us the railroads move 2483 ton-miles. But the real shock comes if we figure what it would cost to move the same tonnage at the average truck freight charge (1.72 cents per ton-mile, 1939). The per-capita cost would jump to $427, and just think what that $195 increase would mean to every man, woman, and child! How many are there in your family?

TRAINS is now in its new location at 1027 North Seventh Street, Milwaukee, where the Kalmbach Publishing Co. occupies the entire third floor of a modern concrete and brick building. We did *not* choose to move right at the height of the busy season, but the Defense Plant Corporation took over our old quarters for a war factory.

A. C. K.

Trains

Editors: A. C. Kalmbach, Linn H. Westcott, Willard V. Anderson

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Masthead photo, courtesy *Erie Railroad Magazine*, is of the famous Starruca Viaduct near Lanesboro, Pa.

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The Man in the Tower

BY EDWARD HUNGERFORD.

THE recent seizure of the equipment of the Italian State Railways, sent over to the New York World's Fair of 1939-40, by the federal alien property custodian, brings to mind the fate of a far more important train sent to the same glittering show, the *Coronation Scot* of the London - Midland - Scottish Railway. The *Coronation Scot* was a great success over here. The Italian trains were not. They were, for the most part, dull and drab and uninteresting. But they were not, as stated in newspaper dispatches, of a different gauge than ours. They were rolled on their own trucks from the ship that brought them to dock in New York out over the Long Island Railroad tracks to the fair grounds at Flushing, and at the end of the show, back to an abandoned shop of the Pennsylvania, at Meadows, back of Jersey City—which, incidentally, would make a fine structure for the projected national railroad museum in which there is a growing interest.

The *Coronation Scot* had a rather different fate. It was taken down to the Mount Clare shops of the Baltimore & Ohio at Baltimore, where it still reposes, each wheel chained to the rail by the United States Customs. When the fair was over, there was no shipping space to send it back to its homeland. Latterly, however, its locomotive has gone back. The cars remain in Baltimore.

For a time after the fair some of the railroads considered putting the *Scot* into service for a season at least. Operating it with typically British food and British service, it should have been a great advertising stunt. The New York Central thought of running it each day from New York up to Albany and back, or possibly, in connection with the Delaware & Hudson, from New York to Montreal one day and back the next. This would have given it a visit to British territory each alternate day. The limited capacity of the train—but 84 seats—ruled against it. Perhaps, now that there has been a great demand in this country for passenger equipment, Mr. Eastman may rule it into service on our American roads. That would be a far more common-sense idea for the Italian trains also, rather than send them to the scrap heap.

THE fate of the 50-odd old engines that were at the World's Fair, both in *Railroads on Parade* and on the exhibit tracks nearby, has been a varied one. The *John Bull*, of the erstwhile Camden & Amboy, is back in its accustomed resting place at the National Museum in Washington, its fine replica the Pennsylvania reserves for occasional exhibition use. The *Stourbridge Lion* (replica) has gone to its native habitat, Honesdale, in the Pennsylvania hills, where a neat brick building has been erected for its housing, as well as the housing of a small passenger car of the one-time gravity railroad of the Delaware & Hudson Canal Company from nearby Carbondale. The *Best Friend of Charleston* has returned to its home town, and the *DeWitt Clinton*—these two both replicas—to Henry Ford's museum at Dearborn. The *General* (very much the original engine) has gone to its accustomed resting place under the picturesque train shed of the old Union Station at Chattanooga, Tenn. [Recent rumors that the *General* will be scrapped are denied by the Nashville, Chattanooga & St. Louis.—*Ed.*] The *Daniel Nason*, of the Boston & Providence, cools his heels in a railroad shop in the Bronx in New York. The *Jupiter*, of the Central Pacific (remodeled from the original *Genoa* of the Virginia & Truckee), has found lodgment with the prospering little Bath & Hammondsport Railroad in western New York. It will soon be in operation along with the curious Camelback engine, the 952, gift of the Lackawanna to the Railway & Locomotive Historical Society. Ralph Budd has tucked away the Burlington's *Pride of the Prairie* at Aurora, and has given the little narrow-gauge engine and train of the Colorado & Southern for exhibition purposes to Central City, Colo. The 169, of the Denver & Rio Grande, was given by Judge Wilson McCarthy to Salt Lake City for the same purpose.

The *J. W. Bowker*, of the Virginia & Truckee, which was an outstanding actor in *Railroads on Parade*, has gone into hibernation in a shed near Berkeley, Calif., along with two small narrow-gauge engines which were actors in the pageant at the San Francisco Exposition in 1939-40. And last, but far from least, the splendid old-time fleet of Baltimore & Ohio, headed by the *Atlantic* and embracing such outstanding items as the *William Mason* and the *Thatcher Perkins*, is carefully housed in Baltimore.

In the present emergency there has been some demand that these engines be scrapped for their metal value. A few of them were sacrificed to that demand, particularly the swift, high-wheeled 4-4-0 *Director* of the B&O. This, although it was a very handsome engine of the Skaneateles (N. Y) Railroad, Baldwin-built in 1871, and a perfect little Bambi-like beauty, went heads-up to the scrap pile, or at last reports was on its way there.

That all of these fine ancient locomotives should be scrapped is a remote possibility; certain it is that they should not go until every pos-

The Coronation Scot locomotive and train of the British LMS Railway arrived in this country early in 1939, and before the opening of the New York Fair ran thousands of miles on American railroads, exhibiting at most larger cities. The Coronation Scot, left, is shown on the B&O's viaduct at Relay, Md., posed with the Royal Blue steam locomotive. While in the U. S. the Coronation Scot was presented by American model railroad enthusiasts with a chrome plated and appropriately engraved American chime whistle.

sible locomotive of less historical value has been sacrificed to the war effort.

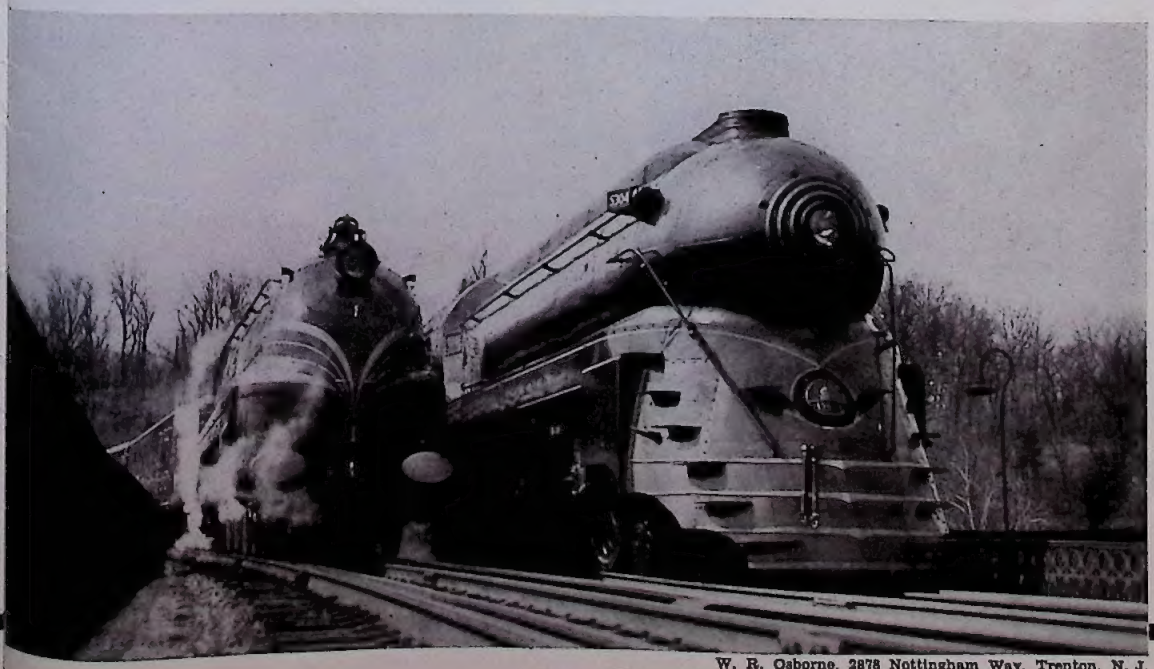
PLANS already are afoot for the establishment of a museum of the railroads in the East. Some of these old engines, if not all of them, will make outstanding figures in the great hall of such a museum. They will be joined by replicas of other famous train-pullers of the past. These already have been promised, but obviously railroad shops cannot, at this moment, turn from essential wartime necessities to such fripperies. They will have to wait their turn, and the end of the war. But the spirit is willing. Two or three years ago Martin W. Clement, the vigorous president of the Pennsylvania, ordered that the final engine of any class of that great system should be forever retained, and then proceeded to restore a fine old 4-4-0 of the eighties in time to be shown at the second year of the New York World's Fair. A creditable thing to do, Mr. Clement!

RALPH BUDD, the extremely outstanding and efficient president of the Burlington, is another big railroad executive who is interested in the railroad museum idea, and who, when the right time comes, will do a lot to assist in establishing it. Mr. Budd, in addition to restoring the neat little *Pride of the Prairies* and retaining the narrow-gauge train of the Colorado & Southern, back in the days of the Chicago World's Fair caused the first railway mail car in the land—which operated on the erstwhile Hannibal & St. Joseph—to be restored completely. It is a museum piece of incomparable value. F. E. Williamson of the New York Central, another outstanding executive, will also aid and back the museum idea.

Of course, there already are aggregations of early locomotives and cars in several long-established museums such as the National Museum at Washington, which has, in addition to the *John Bull*, what is left of the original *Stourbridge Lion*. The Franklin Institute in Philadelphia holds the little *Pioneer* (1854) of the Cumberland Valley Road and an interesting replica of Matthias W. Baldwin's *Rocket* for the Philadelphia & Reading. At Dearborn, Henry Ford's museum has a number of interesting pieces of motive power, including chiefly a really magnificent assembled early train, headed by the locomotive *Satilla* of the one-time Atlantic & Gulf down in Georgia. The Rosenwald Museum in Chicago has, among other engines, the *Mississippi*, of an Illinois Central predecessor road; the very historic *Pioneer*, of the Chicago & North Western; and the *York*, replica, of the Baltimore & Ohio. Up in St. Paul the Great Northern clings closely to its fine *William Crooks* and three passenger cars, and the Northern Pacific to its *Minnetonka*, affectionately known from one end of the road to the other as the "Old Betsy."

It is a pity that these old engines have had to be dissipated to so many places; that from the beginning, they could not have been assembled in one point. On the other hand, it is a joy that they have been saved—that, so far, at least, they have escaped the hands of the scrap-metal enthusiasts. They probably will be left to record, in their own way, the tremendous development of the American railroad.

Edward Hungerford



W. R. Osborne, 3878 Nottingham Way, Trenton, N. J.

Southern Pacific.

Rail dump at end of track in Nevada.

A supply of rail is shown piled near the end of track on the Central Pacific (now Southern Pacific) as the railhead pushed ahead over the Nevada desert during 1868-69. It was over terrain such as this that the eight Irish track layers, backed by an army of Chinese coolies, laid 10 miles of track in one day, the final big push which put the Central Pacific within short distance of the spot at Promontory where the gold spike was driven May 10, 1869.

Track-Laying Extravaganza

★ Ten miles of track in a 12-hour day set the world's record during UP-CP race to Promontory.

By Earl Heath.

SEVENTY-FOUR years ago a squad of eight Irishmen and a small army of Chinese coolies made a record in track laying that has never been equaled. In one day, on April 28, 1869, these men, fired with the enthusiasm of the greatest railroad construction race in the history of the world (see TRAINS, May, 1942), laid 10 miles and 56 feet of track in a little less than 12 hours to bring the railhead of the Central Pacific 3½ miles from Promontory, Utah, where connection was made a few days later with the Union Pacific to form the first transcontinental railroad.

The names of the Irish rail handlers have been passed down through the years. Their super-human achievement will be remembered as long as there is railroad history. So, too, will that day's work of "John Chinaman" be recalled as the most stirring event in the building of the railroad.

During six years the builders of the Central Pacific, at times numbering 14,000 men, had pierced the snow-covered granite walls of the High Sierra and extended their trail of iron over the barren plains 675 miles eastward. For more than five years the Union Pacific had been building westward. Officers of both roads were awake to the future advantages that would accrue to the company having the longest mileage. This rivalry extended through the ranks from the presidents to the track laborers. There followed some marvelous feats of track laying.

One day the Union Pacific broke all records by laying six miles of track. Charles Crocker and his Chinese "pets" were invited to match that. They beat it by a mile. Then the Union Pacific came back with 7½ miles, working from 3 in the morning until almost midnight. But the Central Pacific was not to be beaten.

Crocker declared his men would lay 10 miles of rail in a day. Such a ridiculous thing was scoffed at in the rival camps, which were now drawing close together. The story is told that Vice-President Durant of the Union Pacific bet $10,000 that it could not be done, and that his money was "covered."

For several days Crocker and his construction superintendent, J. H. Strobridge, marshaled their forces and laid their plans. Ties were hauled ahead by two-horse teams and distributed along the right of way. For some distance the ties were spaced on the already-graded roadbed. Rails and track materials were moved up from the rear and held in trains ready to advance. More than 4000 men and hundreds of horses and wagons were on the spot. Every man knew his particular job, taught by many months of track work. No one would get in the other fellow's way. In the Central Pacific camp, the patient and methodical Orientals were stirred to a pitch of excitement never shown before, and shared with the few hundred whites the anxiety to "get at the job."

April 27, 1869, was the day selected, but an engine off the track early in the proceedings compelled a postponement until the next day. This mishap brought many laughs from the Union Pacific side, but only served to arouse the determination of Crocker's men. Bright and early the next morning they were set again and at 7 o'clock the great task began.

Here is the way it was done, according to a reporter who was on the scene:

A train of 16 cars loaded with iron rail and materials for two miles of track was pushed up to the front. Men climbed on top and threw off the fishplates and kegs of bolts and spikes. Others punched side stakes out of the right and left alternate cars. The rails were then rolled off and in eight minutes the 16 cars were cleared with a noise like the bombardment of an army. The train was then pulled back out of the way and another train of rails brought into position.

Gold Spike days.

The camp is for Chinese coolies working on the Central Pacific near end of track. Next photo is the driving of the golden spike which marked completion of the first transcontinental railroad on May 10, 1869. This was at Promontory, Utah, on the north shore of Great Salt Lake. Last picture to the right is not a re-enactment of the gold spike scene, but history reversing itself as the "Last Spike" was pulled September 8, 1942. The line through Promontory had been a branch since the building of the Lucin Cutoff 40 years ago and has now been torn up for war-necessary scrap.

Collection of D. L. Joslyn, 2164 Castro Way, Sacramento, Calif.

As soon as the material train was gone, small iron handcars were put on the tracks. Each had a crew of six Chinese working under white bosses. Sixteen rails were loaded on each car, together with a keg of bolts, a keg of spikes, and a bundle of fishplates. Two horses with riders were attached to the car in tandem by a long rope. As soon as the car was loaded and the crew on top, the horses were off on the jump. One side of the roadway was kept clear for the horses racing ahead with the material cars. On a down-grade the horses were detached and the car went flying along with one of the crew acting as a brakeman. The horses ran alongside and, when a level was reached, the nearest rider hooked on again. The first car out from the material dump only had to go a short distance, while the last cars had to go perhaps two miles.

At the same time empty cars were returning on the single track, all of them at full speed. As a full car came closer, the crew on the empty car jumped off and lifted their car from the rails, while the loaded car went past without slackening speed. There was no halt in the continuous stream of materials to the front.

When the loaded car neared the rail head, its gang stepped off and another gang jumped on with picks. They broke open the kegs and cut the fastenings on the fishplates. The keg of bolts was thrown to one side to men who filled their buckets and distributed the bolts. Other men distributed the fishplates. The spikes were poured out over the rails and as the rails were removed the spikes dropped through the floorless car and distributed themselves.

At this point the picked crew of Irish rail handlers, working under Track Foreman H. H. Minkler and Gang Foreman George Coley, came into the picture. A single horse pulled the car up to rail head, where it was blocked by a wooden-framed iron track gauge. Four men worked on each side of the track. Two men seized the forward end of the rail with their tongs while the two rear men slipped the rail to the side of the car so it rested on iron rollers. The two forward men trotted ahead the length of the rail, 30 feet, the rear men dropping the rail in place, where it was bolted and spiked by the track gang. The car was then pulled forward to the next track and the procedure repeated.

The track went forward at the rate of almost a mile an hour. A correspondent for

Rail-canal tunnel.

Nestled in the Vosges Mountains of Europe, in the Alsace-Lorraine district, are two tunnels which serve both the Alsace-Lorraine Railway and an adjacent canal. Situated between Strasbourg and Avricourt, one tunnel is rather short, but the other is more than a mile and a half long. Both the railroad and the canal are very busy traffic arteries.

Courtesy Union Pacific.

the *Alta,* another San Francisco newspaper, timed the track layers. He wrote: "I timed the movement twice and found the speed to be as follows: The first time 240 feet of rail was laid in 1 minute 20 seconds; the second time 240 feet was laid in 1 minute 15 seconds. This is about as fast as a leisurely walk and as fast as the early ox teams used to travel over the plains."

But the rail handlers were only eight of several hundred men at the front, every one of whom was an important cog in the smooth-working machinery. Ahead were three "pioneers," the most advanced men, who, with shovel and by hand, butted the ties to a rope line measured from the track-center spikes set by the surveyors. About half the regulation number of ties were placed at first to insure having sufficient for the 10 miles.

Just behind the rail layers came the spikers, bolters, and those who distributed the materials. Then came the gang that surfaced the track by raising the ends of the ties and shoveling enough ballast to hold them firm. Immediately following was a "reverend looking old gentleman" who sighted the line of the rails and, by motion of his hands, directed the track straighteners. Then the tampers, 400 strong, followed with shovels and tamping bars.

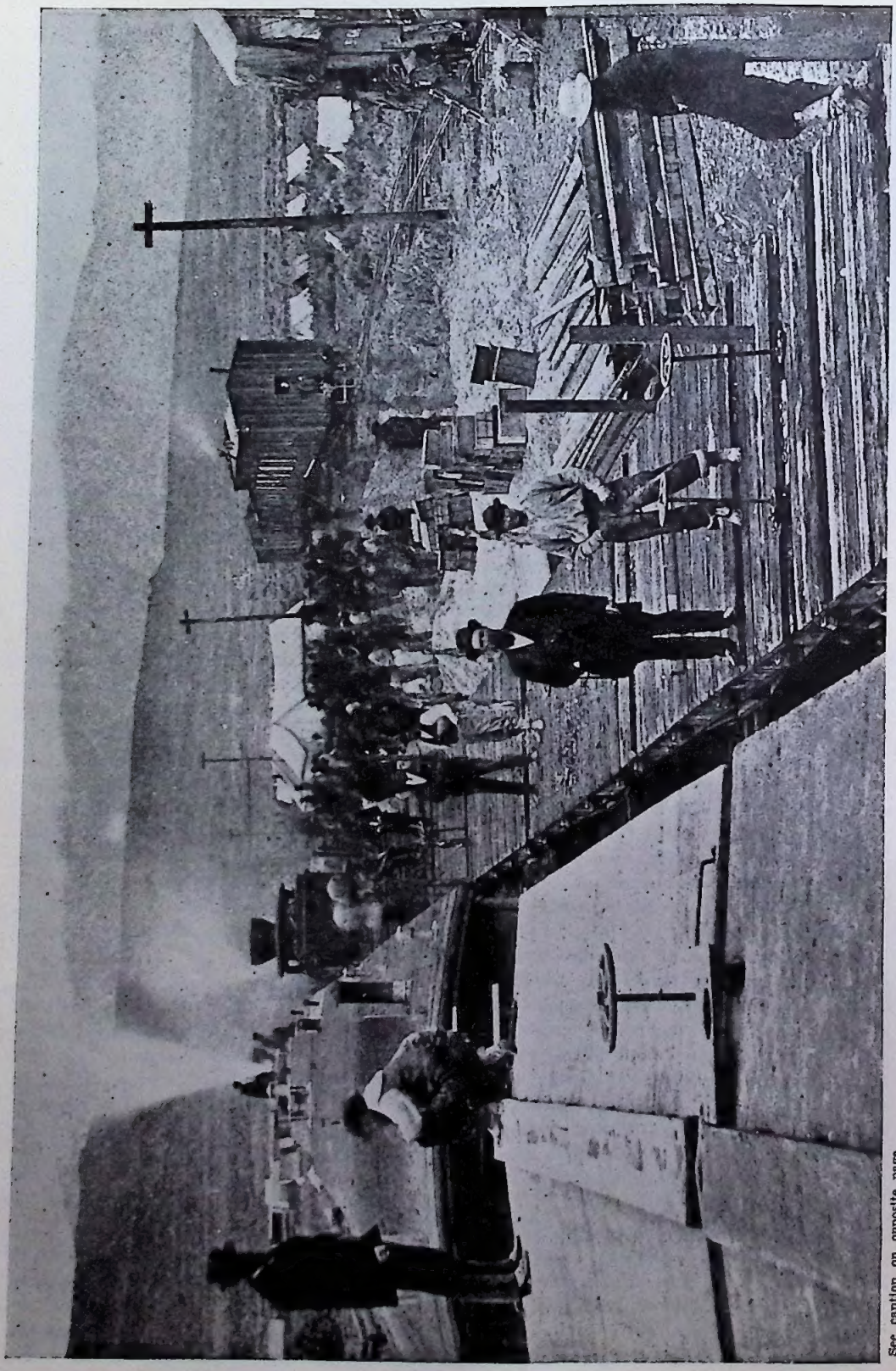
The scene was an animated one. From the first "pioneer" to the last tamper, about two miles, there was a line of men advancing a mile an hour; iron cars with their load of rails and humans dashed up and down the newly laid track; foremen on horseback were galloping back and forth. Keeping pace with the track layers was the telegraph construction party. Alongside the moving force, teams were hauling tool and water wagons. Chinamen with pails dangling from poles balanced over their shoulders were moving among the men with water and tea.

Farther back, locomotives were waiting with their cars of materials. Five train loads were used on that day. When one section was completed, the next material train was moved up as far as possible on the new track and materials for another two miles unloaded. In the rear of all this was the boarding house train and quarters of officers, a long line of wood houses built on flat cars, looking like a small town stretched out. In the valley below, continuous trains of wagons and work shops moved along in parallel lines. It could only be compared to the advance of a large army.

Six Miles Laid by Noon.

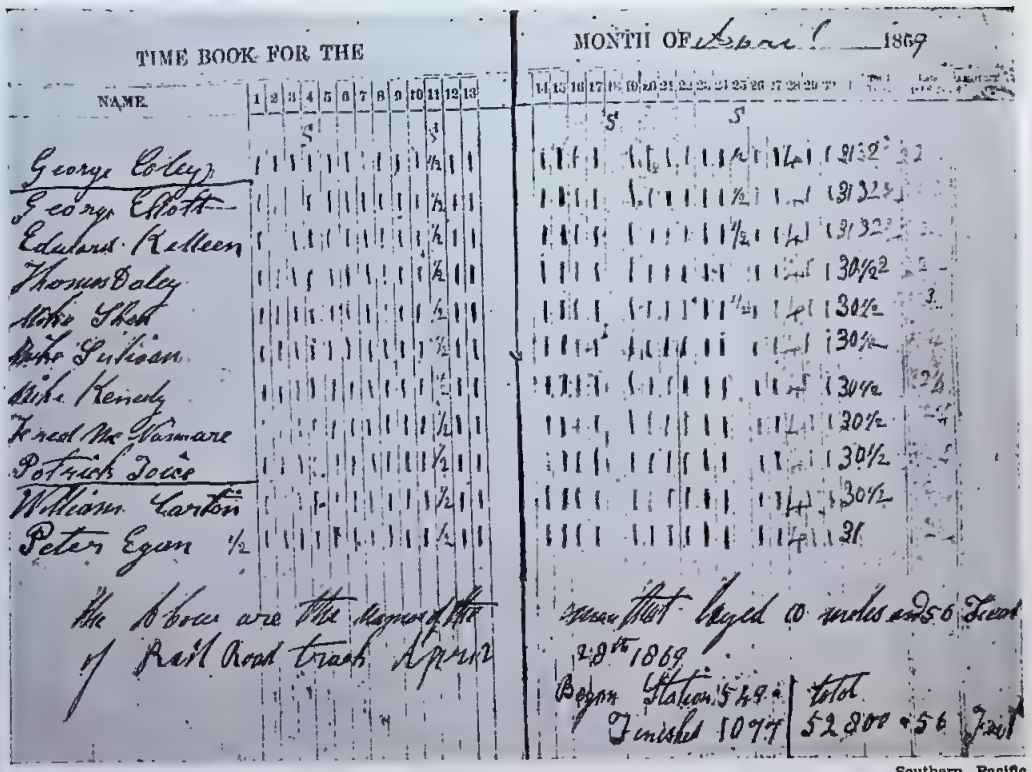
When a halt was called for the midday meal, six miles of track had been laid and the men were confident they would reach their goal. A number of Union Pacific officers had lunch with Stanford, Crocker, and others of the Central Pacific. They were ready to extend congratulations. "Victory" was the name given the spot where lunch was taken. The station is now called Rozel.

After lunch the work went on, but not so rapidly. The ascending grade on the west slope of Promontory Mountain was more difficult than the section covered during the morning and there were many curves. Con-



Southern Pacific.

See caption on opposite page.



Southern Pacific.

Camp Victory marked the end of a historic day.

To the left is the Central Pacific camp built at the end of the 10-mile stretch of track laid in one day. It was named Camp Victory in recognition of the newly won track-laying championship, and was only 3½ miles from Promontory. The man in dark suit, standing on the flat car in the foreground, is J. H. Strobridge, construction superintendent in charge of the Central Pacific force. Above are pages from the time book of George Coley, foreman of the record-making track gang, with names of the eight Irishmen who made up the rail-laying crew and the two who handled the track gauge. The original book has been preserved by Mrs. Jennie Yeates, Oakland, Mr. Coley's daughter, and shows that four days' pay was given for this memorable day's work.

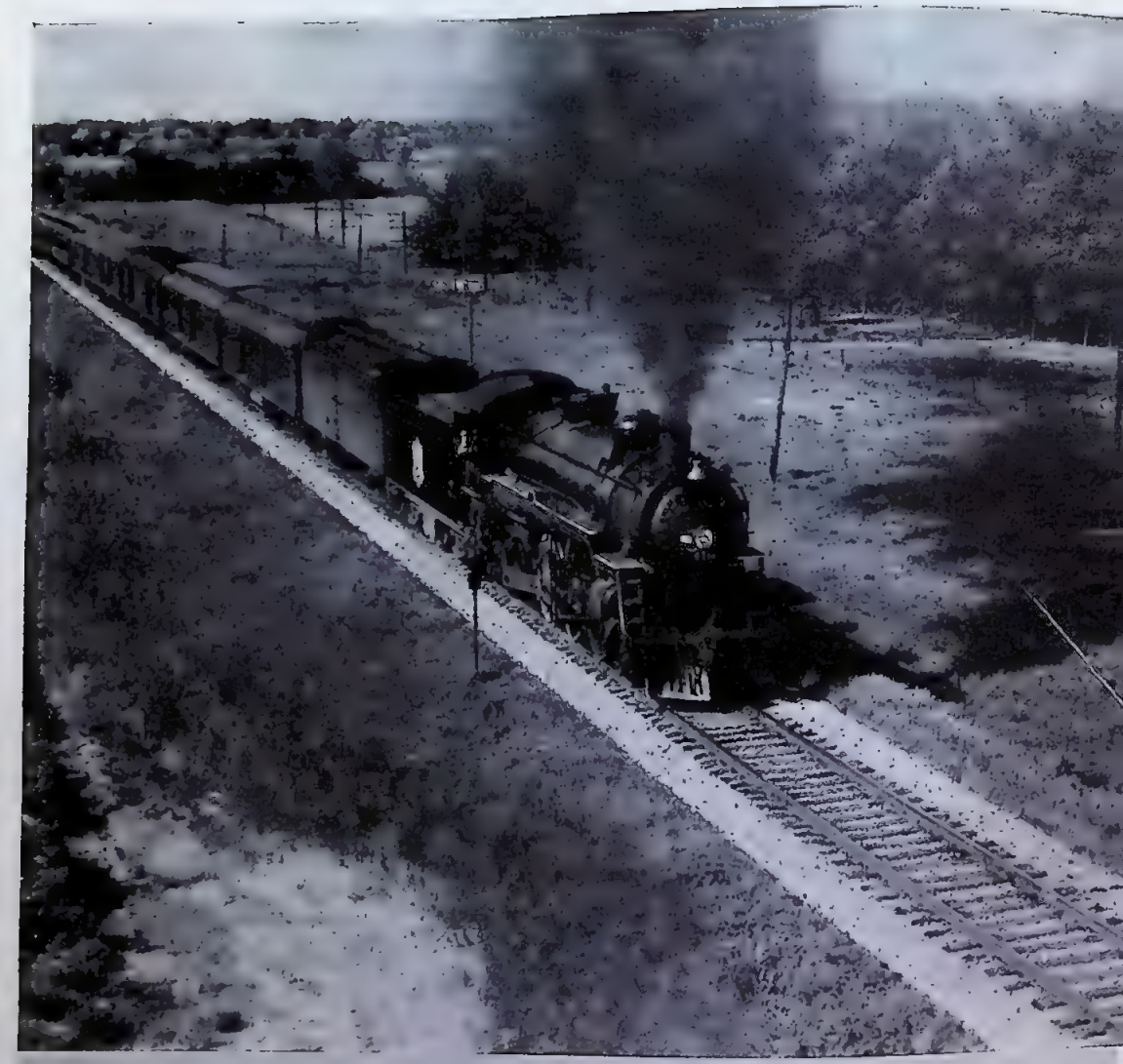
siderable time was lost in bending rails, which was done by placing the rail on two blocks and forcing it into the desired curve by blows of a heavy hammer.

When the forward march was halted at 7 o'clock, 10 miles and 56 feet of new track had been added to the Central Pacific. Jim Campbell, boarding boss and later superintendent of the division, jumped into a locomotive and ran it back over the new line at a clip of 40 miles an hour just to prove that the job had been well done.

If the roadway had been perfectly level and straight, these men could have laid 15 miles of track. The task had involved bringing up and putting into position 25,800 ties, 3520 rails averaging 560 pounds each, 55,000 spikes, 14,080 bolts, and other material making a total of 4,462,000 pounds.

Each of the rail handlers lifted 125 tons of iron during the day, in addition to carrying the weight of his heavy rail tongs. They walked many feet more than the 10 miles forward. Theirs was a wonderful exhibition of skill and strength, and they richly deserved the acclaim showered on them when they proudly rode in a wagon as a feature of Sacramento's railroad celebration a few days later. When the parade was over, their wagon was filled with flowers thrown to them by men and women, boys and girls.

With the eight sons of Erin and the sons of "John Chinaman" rest the palms of a great track-laying victory.



J. W. Maxwell, Denver, Colo.

Courtesy M-K-T.

The Katy

★ **Missouri-Kansas-Texas hauls oil from midcontinent fields northeast to St. Louis and Kansas City.**

THE Missouri-Kansas-Texas, familiarly known as the Katy, is 3293 miles of railroad in the states of its title and in Oklahoma. The road is mainly a north-and-south route with the big cities of Texas, Houston, Galveston, San Antonio, Fort Worth and Dallas toward the southern end and St. Louis and Kansas City at the north end.

More than 90 per cent of the Katy's revenue comes from freight, and the largest tonnage item is refined petroleum, with wheat, soft coal, building materials, and manufactures and miscellaneous also contributing substantially.

Passenger traffic is not a big item, but the *Katy Flyer* is a train justly known for its accommodations and it covers practically all the main lines of the system, starting as two trains at Kansas City and St. Louis on the north, joining at Parsons, running in two parts over the parallel routes through Dallas and Fort Worth, and on to San Antonio and Galveston. The *Flyer* carries sleeping cars, diner and coaches. Two other well known trains are the *Bluebonnet* and the *Texas Special.* These, however, use what is known as the *Texas Special* route, southwest out of St. Louis on the Frisco and then onto the Katy at Vinita, in the northwest corner of Oklahoma. The *Sooner* does the Kansas City-Oklahoma City run overnight. Although the Katy has a Kansas City-St. Louis line, it does not compete for this highly competitive passenger business, and in fact a portion of the route is served only by a mixed train.

Locomotives total 351, freight cars 7174, passenger cars 224, of which 12 are diners, and work cars 775.

The photos.

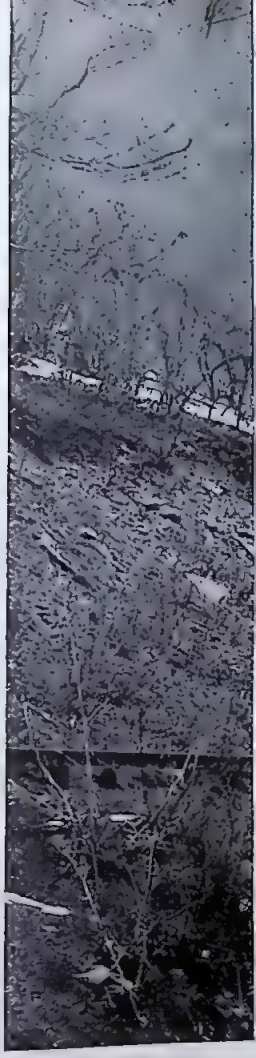
The *Katy Flyer* (above) runs the entire length of the M-K-T's main lines, from Kansas City and St. Louis to the Gulf. The little 4-4-0 (No. 306) at left is gliding to a stop in Wichita Falls, Tex., with the two-car local from Woodward, Okla. At right is Ten-Wheeler 269, now scrapped, as it looked a couple of years ago on the *Sooner*, overnight train from Kansas City to Oklahoma City.

Preston George, Denver, Colo.

Susquehanna & New York

★ Born as a coal carrier, it prospered in the Pennsylvania lumber trade but is now wartime scrap.

*By Clarence R. Weaver.**



ONE hundred and seventy years ago a handful of rugged individuals, giving vent to pioneering spirits, began working their way up the west branch of the Susquehanna River, arrived at the little Indian village of French Margaret's Town, and decided here was the place to squat for a spell.

From that little cluster of crude log huts, overlooking the beautiful Susquehanna 70 miles north of Harrisburg, emerged the river settlement of William's Port, later the boom lumbering and railroad community of Williamsport. Today the city of Williamsport is a thriving industrial center. Time has obscured the massive log rafts which used to start there; and no longer on Saturday nights are the streets alive with rollicking lumbermen, dominating the masculine styles and feminine hearts with their red and black checkered shirts and brown corduroy pants rooted beneath the well-oiled leather of knee-high, calk-soled boots. Today its fifty or sixty thousand people present a typical American urban scene; and the commonplace parlance no longer stems from the woods, but is representative of nearly a hundred diversified, major industries, from paper boxes to highly precisioned aircraft engines.

Of the old order, railroading alone has survived. And while Williamsport today is even more of a railroad center than ever before, there have been changes here, too. The tracks of three major railroads—the Pennsylvania, the Reading, and the New York Central—still converge, cross, and intermingle here; and the Erie's trackage rights over the Central's Pine Creek Gorge line continues to provide the city with the trains of a fourth trunkline railroad. But the little railroads, the short lines of lumbering days, one by one, have disappeared. First the Susquehanna & Eagles Mere, then the Eagles Mere, both three-foot-gauge roads, folded up. In the late thirties, the 44-mile Williamsport & North Branch quietly passed into oblivion. It is true, of course, that neither of them entered Williamsport or its environs, yet all of them played important roles in the saga of the Williamsport of tall timber days.

Those of us with a flare for railroads and railroading at first felt a bit depressed over the loss of these three intimate little roads; but our spirits were buoyed with thoughts of another remaining short line, the Susquehanna & New York Railroad. After all, of the four, this one was the most interesting, the longest, and the only one still running passenger trains. What's more, it was enjoying a comfortable freight business. With the closing of the last sawmill on its line 15 years ago, an aggressive traffic department had taken advantage of strategic end-of-line connections, which included precious trackage rights into Williamsport's Newberry

* With grateful acknowledgement to the following for their help in compiling information and material: H. J. Welsh, general passenger agent, S&NY RR., Fred C. McWilliams, Clermont M. Zimmerman.

William Moedinger Jr., 23 E. Vine St., Lancaster, Pa.

Entering Ralston Branch.

In the days of Susquehanna & New York's predecessor, the Barclay Railroad, coal traffic originating on the line comprised most of the tonnage. During the present century most of the mines have been worked to their economic limit, and the last few years have seen only enough coal mined along the line to fuel S&NY's handful of locomotives. These mines, nothing more than holes in the side of the mountain, were nevertheless responsible for keeping the Ralston Branch in operation. Shown in the above photo is Consolidation 115, with an empty S&NY hopper, entering the Ralston Branch at the nameless junction a mile or so northeast of Marsh Hill. Notice the opposing grades of the branch and main line.

Yards, and built up through carload traffic.

Although owned by the United States Leather Company, whose personal interest in the line ceased when the adjacent timber supply became exhausted, there was little reason to believe that Susquehanna & New York would not continue to operate its 45-mile main line between Marsh Hall, 20 miles north of Williamsport on the Pennsylvania's Elmira extension, and Towanda, along the high iron of the Lehigh Valley. There was, of course, the possibility that the three-mile Ralston Branch, from which S&NY hauled coal for its locomotives, might be abandoned, or that the week-day mixed train might drop the "mixed" or be discontinued altogether for the sake of economy; but it would be a long time, we consoled ourselves, before Newberry Yards couldn't look forward to the arrival and departure of S&NY's daily time-freights.

Unfortunately, last year's attractive scrap prices encouraged Susquehanna & New York to petition the Interstate Commerce Commission for permission to abandon, despite the fact that business was better than at any time during the past decade or two. Con-

William Moedinger Jr.

South end of S&NY.

Although two out of every three Susquehanna & New York trains began their runs at West Williamsport, 20 miles south of Marsh Hill, the Marsh Hill yards (top, above) were really the beginning of this 45-mile railroad. Freight, gleaned from interchange with the Reading, New York Central, and Erie railroads at Williamsport's Newberry Yards, was hauled by S&NY locomotives manned by S&NY crews over the tracks of the Pennsylvania Railroad (formerly the Northern Central) to Marsh Hill, where freight from the Pennsylvania was picked up. Track in the center is the S&NY main line as seen from the Marsh Hill station. Center is the S&NY's Marsh Hill station, also used by the Pennsylvania. Bottom photo is S&NY time freight No. 21 passing Bergan tower, end of heavy iron and beginning of S&NY's own line. The tower can be seen in the background of the center photo.

trary to all predictions that the road would last for at least the duration, permission was granted in January of last year. Shattered hopes were temporarily revived when the court issued an injunction against abandonment, but the ensuing investigation proved futile. Late in the afternoon of Friday, May 22, the last Susquehanna & New York freight, wearing the traditional white flags, cleared the Towanda yards for the 65-mile grind to Newberry.

Now, as I pen these few words, the last nostalgic remnant of the East's greatest lumbering empire is being ruthlessly dismembered and carelessly heaped into open cars, destined for fiery oblivion in the furnaces of a scrap-hungry steel mill. What was a few months ago a sight to quicken the pulse of any true railroad enthusiast is today a gruesome spectacle of destruction. But as I vision rail-length after rail-length disappearing beneath the sides of a Pennsylvania gondola, memories of a warm August day in 1941 bring cheer to my heart and a feeling of joy and satisfaction to my soul; for it was then that several friends and I were first introduced to Susquehanna & New York.

It is exactly five minutes past eight in the morning of August 23, 1941. We've just stepped off a reclining-seat coach of the Reading's *Williamsporter* at Newberry Junction, the end of its all-night run. Outside, a typical late Summer mist, which obscured our view on this early morning ride from Sunbury, is beginning to rise, revealing the vastness of Newberry Yards, which lie before us with all of the imminent enchantment of a newly discovered world. On all sides, busy switch engines are going about their ceaseless drudgery. Freight cars are everywhere—endless strings of hoppers piled high with coal or ore, high cars of grain and cattle and automobiles and flour, gondolas and flats laden with orange-colored steel and brightly painted farm machinery. Directly in front of us is the Reading's five-stall engine house, where a dozen or more heavy Mikados are being groomed and prettied for the new day. Far to the east, barely visible through Newberry's haze, is Williamsport proper, buckling down to the cares of another busy Saturday, while a few hundred feet to the west stands the giant coal trestle and two-

stall engine house of the New York Central and Erie railroads. A block or so in front of us, beyond the New York Central-Erie and Reading facilities, are the Pennsylvania's yards and interchange tracks.

Newberry Yards are truly a railroad wonderland. Without moving from our position alongside the olive-green coaches of the *Williamsporter,* we might watch for a whole day, without getting the least bit tired, an ever-changing, uninterrupted railroad extravaganza. But all of this is only the fitting preface to what lies a few hundred yards to the northwest, hidden from sight by Central and Erie facilities.

Here, grouped around four weather-beaten one-story buildings, comprising a car shop, power house, locomotive repair shop and engine house, and general office building, is the railroad yard of the Susquehanna & New York, a small but worthy contribution to Newberry Yards. Scattered about the yards are a number of old wooden open-platform coaches, a few sagging, high-ended lumber cars, a caboose or two, and an antiquated derrick car. Directly in front of the buildings, under the dripping spout of a giant wooden water tank, stands Consolidation No. 114, dirty and spent from its all-night run from Towanda. Hitherto unnoticed, another Consolidation, trailing a cut of through preference-freight cars, looms into view. It's No. 118, a slide-valve job bought from the Central in 1926, and heaviest engine on the road.

Glistening in the morning sunlight is another engine, the one we've been looking for. It's Ten-Wheeler No. 119 steaming up to handle the passenger run Below the present day coat of paint on the tender are the faded letters of another Pennsylvania short line, H&BTM. You see, this sprightly little Baldwin of 1921 vintage was purchased from the Huntingdon & Broad Top Mountain Railroad in 1934. Coupled to the tender, and standing only as high as the deck covering the water compartment, is a weird-looking piece of rolling stock. It's a long, low, all-steel passenger coach which resembles a cross between an interurban passenger-trailer and a self-propelled railcar. Closer inspection reveals tattle-tale patchwork on the sides and roof at the baggage compartment end, indicating that this was once a gasoline railcar.

In order to get the most out of our brief visit here, we're staying on the ground while our train does a bit of yard work, which includes wying the engine and picking up the six box and refrigerator cars just spotted on the pickup track by No. 118. Technically, S&NY facilities are located in West Williamsport, which, like Newberry and Newberry Junction, are really western suburbs of Williamsport. It is already past 8:20, the time indicated on the timetable for No. 5 to leave West Williamsport, and we climb aboard even before the coupling is made with the six freight cars, lest our attention wander to some other item of interest and we find ourselves left behind.

We were wise, too, for No. 5 begins to ease out of the yards. Five hundred feet to the northwest the train stops. This is the end of S&NY trackage, the beginning of the Pennsylvania's. The reason for the short delay is soon apparent as a long Pennsy drag rumbles by, with a light Decapod in its wake. We're just an hour late when we reach Newberry Station, 0.58 miles northeast of the West Williamsport Terminal.

A couple of more passengers board the train here before 119 mouses her way over the Pennsy crossover switches which lead to the tracks of the Elmira Division. For the next 20 miles, Susquehanna & New York's No. 5 surges north, on a water-level upgrade, over the 130-pound steel of this single-track division. Constant companions through the narrowing valley are Federal Highway 15 and turbulent Lycoming Creek. A short distance above Trout Run, the only non-operating stop on the Pennsylvania track, Highway 15 crosses to the left side, while Lycoming Creek's meanderings continue to be a constant source of bridges in these 20 miles.

With each mile, the paralleling mountains come closer and loom higher. Between their bases there is no longer room for the spacious farms which flanked the right of way just north of Williamsport, and it seems but a stone's throw to the tree-covered mountain sides which outline the far side of the narrow tilled strips of loam along the tracks. Still farther along, great evergreens crowd right up to the tracks, sheltering neat little hunting lodges and cabins beneath their umbrageous boughs. The muffled hiss of tightly clasped brake shoes signals the approach to Bergan, the Pennsy tower controlling the junction of Marsh Hill. With the middle of our train framed between the uprights of a

William Moedinger Jr.

Heavy trains are split to make the grade.

Earlier in the morning these six cars of coal and five others were spotted in the Marsh Hill yards by a Pennsy Decapod. The upgrade to Ellenton is so steep that Consolidation 115 takes the train up in two sections, six cars this time, five cars next. At right the same half-train nears Ellenton.

steel truss bridge across Pleasant Stream, the Ten-Wheeler eases off the heavy steel of one main line onto the 80-pound steel of another. As our coach follows suit, we come to a halt opposite Marsh Hill Station, economically nestled in the crotch of the junction in order to serve both railroads.

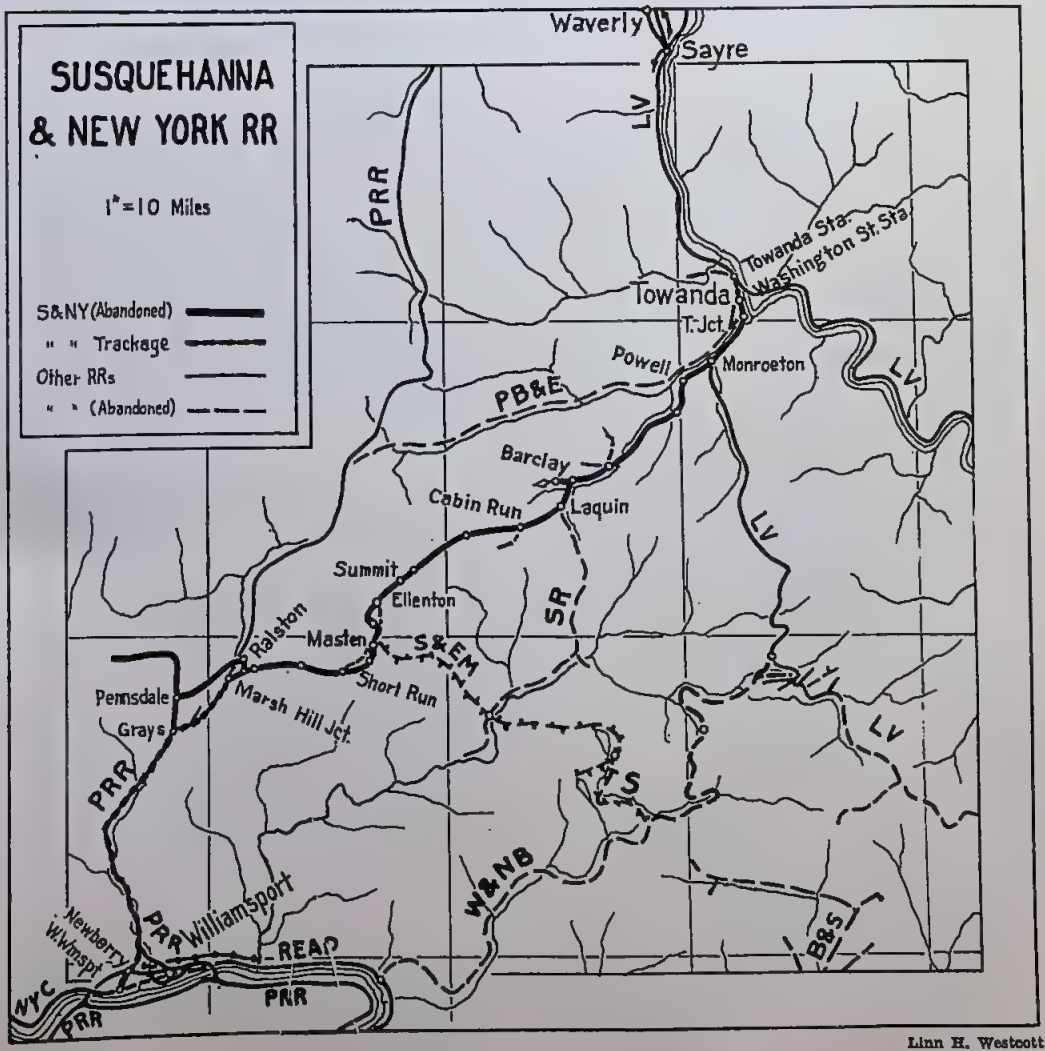
The engineer has moved his train forward a few feet so that the 119 is spotted for the coal wharf and water spout. While the engine has its fires cleaned and a spark arrestor clamped over the stack, we have an opportunity to survey the southern terminal of S&NY's main line. The track our train is standing on serves not only as the main line, but as the ladder for the yard tracks. The six interchange tracks are randomly dotted with a variety of freight cars, most of which are hopper cars. And there's one lettered "S&NY 1425." The number is surely no indication of this road's coal car roster. But it's worth a picture, because the few which the railroad does own are not interchanged, but are reserved for coal service from the mines along the Ralston Branch to coaling stations along the main line. Surrounded by tracks of the wye, the coal wharf itself is structurally typical. Inside, however, furnishing steam to run the endless carrier, which lifts coal from hoppers to the top of the wharf, is the old boiler and fire box of a retired locomotive of the three-foot-gauge Tionesta Valley, a 15-mile western Pennsylvania timber road also owned by the United States Leather Company.

Our coach hasn't even cleared the Marsh Hill yards when the sharp exhaust of 119 introduces us to the grade ahead. It, too, could be described as water-level—that is, if you have in mind a dashing mountain stream. For 14 miles, skyward 1300 feet to JK siding just beyond Ellentown, the little train assaults the southwest slopes of the South Mountain Range of the Alleghenies. The average grade is not quite two per cent, but an occasional stretch lifts the ruling grade considerably above this figure. Any train of more than 650 tons normally requires a helper, but in wet weather the limit is drastically lower. In fact, almost any day, with a little patience, it's possible to stand in the same spot along this particular stretch of iron and snap a picture of the same train three or five times, depending on the number of trips the crew must make to get the train over the hump at JK. By the same token, it's not uncommon for the engine of a 14- or 15-car coal train to travel more than 100 miles in the course of tugging the loaded hoppers over the 45-mile main line.

A mile or so out of Marsh Hill we reach the level of the Ralston Branch, which from Marsh Hill yards was merely a scar along the side of the mountain. In eight miles our train makes the first way-station stop at Masten. The structure is typical of the on-line stations, boarded up and evidencing having seen many seasons without a fresh coat of yellow and green paint. Coming down the hill from the right is the old roadbed of

the Susquehanna & Eagles Mere Railroad, while in the valley below, on the banks of Pleasant Stream, are the ivy-covered stone foundations of the great Sones lumber mill, for many years a source of lucrative tonnage for the railroad here. The only business Susquehanna & New York gets out of Masten now is in connection with the Civilian Conservation Corps camp, which, incidentally, is one of the largest such camps in the state.

From purely the enthusiast's point of view, the five miles between Masten and Ellenton are the most absorbing, for they include both the "loop" and the "big fill curve." The former isn't exactly a loop, but rather a hairpin curve of the 16-degree variety. At this time of the year the trees obstruct the view, but in Winter the engine and first two or three cars are plainly visible, climbing up the opposite mountain side. When the train runs above 15 cars, and it quite frequently does, especially towards the end of the week, crews on the rear helper engine are the victims of much raillery from those in the road engine across the valley who are traveling in the opposite direction. The "big fill curve" is a bit farther up the mountain from the loop and is just what the name implies. Like Masten, the Ellenton station is deserted, and a short, elderly man, bearing a sack over his shoulder, meets every passenger train with any mail or parcels from the general store - post office a block or two down the road. In less than a mile we're passing the wye and siding at JK, where S&NY breasts the South



Linn H. Westcott.

William Moedinger Jr.

Masten station.

Stripped of all its former glory and importance, the station at Masten was typical of all but two of the Susquehanna & New York's on-line stations. Before the day of the automobile, and when Masten hummed with the Sones lumber mill, the monthly dollar volume of passenger traffic reached the four-figure mark for this now-boarded-up, ghostlike structure. In recent years Masten station served a Civilian Conservation Corps camp which furnished most of the revenue from this station stop. No. 118's boiler pops off while waiting for the highball.

Mountains slightly above the 2100-foot mark. Here 199's rhythmical exhaust give way to the sound of brake shoes, which for more than 10 miles is almost without interruption.

At Wheelerville, one of two on-line stations still open and replete with semaphore signals and an operator, our Ten-Wheeler loses no time in getting the seven-car train into the clear, for already the blast of an approaching train is audible through the open windows. Now it's rounding the bend down the hill, and the sound of the exhaust tells us that the engineer sees we're in the hole. It's Consolidation No. 115, with train No. 20, S&NY's southbound time freight, fighting her way to summit. The hogger is taking advantage of the brief but welcome tangent through Wheelerville. No 20 rolls by our open windows with all of the gustful commotion that accompanies the passing of a passenger limited and a hotshot freight on any high-railed main line. Three miles below Wheelerville, the seven men who have ridden all of the way from Williamsport step from the coach to the grounds of their hunting lodge.

Beyond Cabin Run the track seems to level off a bit as the mountains seem to recede, and the topography assumes more of a comprehensible pattern. Little remains of the boom towns of Laquin and Barclay. Only crumbling foundations reward the sharp eye with a clue to the bustling lumber industries which flourished here. We must rely on history to reveal the importance of these towns 25 years ago, to tell us of the sprawling railroad yards nestled in this valley, to picture for us the little 2-6-0 and Climax locomotives of the Pennsylvania Lumber Company which worked these yards and assembled the trainloads of kindling wood, barrel staves, charcoal, and alcohol for S&NY.

At Powell our train re-enters a world of automobiles and hard-surfaced highways, of people and houses, of fields of corn and prosperous dairy farms. And it's here that the vacant leather seats begin to fill with passengers, mostly women and children bound for Towanda and a Saturday afternoon's shopping. What's more, they are regular customers with whom our jovial conductor exchanges some bit of friendly banter. At Monroeton, where the Lehigh Valley's State Line and Sullivan Branch comes in from the right and joins the S&NY main line, there's a repetition of the Powell scene, so that when No. 5 chuffs away from the little station there's standing room only. The remaining five miles, over which Lehigh Valley has trackage rights, traverse a fertile valley, one of the many for which the Keystone State is so famous, yet there is unmistakably the atmosphere of lower New York State.

In a few minutes we are along the banks of the same river which we left barely three hours ago, but this time it's the north branch instead of the west branch. To the left, on a gentle slope, is the business district of Towanda, the real birthplace of Susquehanna & New York. Save ourselves, all of the jolly passengers get off at Towanda's Washington Street Station, which also marks the end of S&NY tracks; but our ride doesn't end for another mile, until we've climbed on Lehigh Valley tracks from water's edge to the latter's main line north of town.

Busy ones are the next few minutes. While we're watching our Ten-Wheeler spot the six freight cars on the interchange track and being turned on the "armstrong" turntable, a thin line of smoke, downstream across the river, catches our attention. It grows into a Lehigh Valley milk express, roars

William Moedinger Jr.

Approach to Ralston Branch.

Trailing six empty Pennsy hoppers and 12 box and refrigerator cars, Consolidation 118 rattles down the main, over the switch leading to the Ralston Branch (see photo, page 15), with S&NY southbound time-freight No. 20. On the rear of the train, hidden from view, is another Consolidation, No. 114, which, having helped 118 up the east side of the mountain, comes right along into Marsh Hill to help the northbound version of the same train up the western slope. Dirt road at right is typical of the few in S&NY territory between Marsh Hill and Powell.

across the massive steel girder bridge toward us, and in a brief moment flashes by the yellow brick, stone-trimmed Towanda station of the Lehigh Valley. Because of the rare beauty of the spot and the unobstructed view in both directions, Lehigh Valley Junction, as this particular spot is more accurately known, is a mighty interesting place. But we must save all this for another time. No. 119 is coupling onto the coach prior to pulling down in to the yards in south Towanda.

Susquehanna & New York's layout here is modest and unimposing, consisting of an old grounded passenger coach serving as an office building, a two-stall engine house, rarely used, and the other miscellanea essential to the lesser terminal of a small railroad. As No. 119 backs over the ash pit for inspection and cleaning, Consolidation 116 clanks out of the yards on a light run to Marsh Hill, where, later in the afternoon, she'll act as helper engine to the northbound timefreight. We've already seen every one of the S&NY's six locomotives, either on the road or in the engine house at West Williamsport, but idle curiosity insists that we look into the apparently empty engine house here. Inside, brightly decorated with the original builder's paint, stands one of the most pleasant surprises of the whole trip—an old 4-0-0-4 Shay, numbered 1 and complete with a huge balloon stack and a ponderous oil headlight. This locomotive, used many years ago by the Laquin Lumber Company, is owned by a historically minded citizen of Towanda, who is preserving it as a museum piece.

It's past 1:30 now, time for 119 and the coach to back up to the Lehigh Valley's main station. All is quiet about the great station, yet an atmosphere of anxiety and expectancy pervades. The conductor jumps off our train before it has even stopped and scans the Lehigh Valley's four bright ribbons to the north. The engineer crosses the deck to the left side, and he and his fireman look anticipatingly in the same direction. Even the baggageman pauses in his loading duties, apparently listening for some unheard sound. Before our curiosity can find words, a long, deep-throated whistle comes from the north and is echoed reassuringly between the green hills. One forty-eight every afternoon is an important moment in the lives of Towanda's 4000 people; it's *Black Diamond* time. For a few brief moments the railroad world of Towanda is focused on the pride of the Lehigh Valley. Not until Pacific No. 2056 eases away from the station, accelerates her gleaming coaches and Pullmans across the river, and diminishes into just another train across the Susquehanna does Towanda return to normality, to Susquehanna & New York. Sometimes the great train is kind to the little one, but not today. Only a few pieces of express have been picked up by our baggageman. At 2 o'clock, unheralded and scarcely noticed, the humble one-car train assumes the identity of S&NY train No. 6, slips down the hill away from the Lehigh Valley's main line, halts a few minutes at Washington Street Station for passengers, mail, and orders, and begins its 2-hour 30-minute homeward-bound run.

Even though a repetition of this morning's ride, our return over Susquehanna & New York is equally pleasant. Minus all of the wonted excitement which invariably accompanies the initial exposure to any new railroad, there's time for relaxed observation and intimate study of the many indiosyncracies which make this little pike an unbeatable fan feature. Especially is this true of the 37 miles between Powell and Marsh Hill, where the track winds and twists through one of

the least populated areas in the country, where maturing stands of odiferous pine and stately spruce edge right up to the track, and where woodland game may often be seen feeding along trout-filled streams. Save for an occasional Summer cabin, traces of human life between the few towns which still can boast of a population at all are practically nonexistent. From Powell to Laquin and from Masten to Marsh Hill the writhing track is paralleled by a deeply rutted, stony, single-lane dirt road which a few natives manage to navigate with their high-wheeled, early-vintage Dodges and Fords. But between Laquin and Masten the route is exclusively S&NY. Only at infrequent intervals does a long-drawn whistle announce the crossing with some remote, unsurfaced byroad. Maybe the little train did look a bit antiquated beside the heavy "M" and "I" power on the Pennsy at West Williamsport, or alongside the swanky *Black Diamond* at Towanda, but through the backwoods country of Bradford, Sullivan, and Lycoming counties it is as appropriate as the gingerbread cornice on a Victorian house in the heart of Colorado's Telluride or Silverton.

With most of our photography worries over, carefully tucked into our paraphernalia bags and ready for the film tanks, there's time to ask the conductor about passenger car No. 206, the one we're riding. In goldleaf letters above the aisle are the words "Smalley Rail Car Company, Davenport, Ia."

"That's the company that built the car," is his reply.

But we're well aware that most conductors aren't instinctively talkative, and soon, with a little persuasion and coaxing, he's unraveling a tale which, with every detail, would make a story in itself. It seems that this is the only car the Smalley Rail Car Company ever built. Behind this company was a man by the name of Smalley, an engineer by profession, who had perfected a high-speed clutch; and he built this car as sort of a guinea pig, prior to embarking on the business of building direct-drive gasoline railcars. Because of the grades and curves, he chose S&NY as his proving ground, shipped the car here, and, with the cooperation of the management, placed it in regular passenger service. When certain mechanical defects

Both, C. M. Zimmerman, 1053 Walnut St., Sunbury, Pa.

On the line.

At top is some typical S&NY scenery, taken from and showing train No. 5 on August 23, 1941. Bottom photo is of the ex-railcar described in the text, which was given to the S&NY when its inventor died when he attempted to make an adjustment while the car was in motion. The gift of the car was to reimburse the railroad for removing and shipping the engines "back home."

Yard office.

Serving as storehouse and yard office, this little wooden passenger car body is descended from the Barclay Railroad. It was located in S&NY's Towanda yards. Notice turntable pit at left. The lower picture shows Masten station receding in the distance from train 5 on the day the author rode the line. Grass was kept down only low enough not to cause traction trouble.

developed, he had the car shipped back to Davenport, the necessary alterations made, and returned to S&NY. All the while, Mr. Smalley stayed with his creation, riding with it on every trip and applying his engineering skill in arresting any undue vibrations which developed from time to time.

One afternoon, coming down from the summit, a discomforting noise developed on the roof near the exhaust outlet. When the car with its trailer stopped at Marsh Hill for orders to run over the Pennsy's Elmira Division, Smalley climbed on the roof, with the intention of riding there to Williamsport. Unfortunately, Smalley, in the course of leaning over the side to make some adjustment, was knocked from the car and killed. And according to the story, S&NY was given title to the car for its trouble in removing, crating, and shipping the gasoline engines back to Davenport.

This tragic chapter in the story of Susquehanna & New York was written in 1925-26, but is only one of the many chapters that combine to make the history of this railroad.

C. R. Weaver, 15 N. 2nd St., Sunbury, Pa.; C. M. Zimmerman.

THE Susquehanna & New York Railroad was conceived April 9, 1853, as the Towanda & Franklin Railroad Company. The purpose behind its organization was to haul coal from the Barclay coal fields to Towanda. Nothing was done, not a spade of earth turned, until the Spring of 1855, a year after its name had been changed to the Barclay Railroad & Coal Company. In July of the following year trains of little four-wheel coal cars started to chuff into Towanda, where their loads were dumped into the holds of waiting canal boats. Three years after Lee surrendered, the rails of the Pennsylvania & New York Railroad (now the main line of the Lehigh Valley) reached Towanda from Waverly, N. Y., where they connected with the Erie Railroad, and this additional outlet for coal from the Barclay fields reflected favorably on traffic over the 16-mile Barclay Railroad. The Erie began to use this coal for its engines, and soon Erie trains, by trackage-right agreements, were rolling into Towanda over the P&NY and up to Barclay over the Barclay Railroad.

Near the end of the century, however, the

Next month:

Lawrence W. Sagle tells the story of the Leiper Railroad, the second railroad built in the United States. Not a common carrier, this line was built in 1809. . . . Frank P. Donovan Jr. describes the Atlantic & East Carolina Railway. . . . Photographs show some ex-New York City elevated cars now in electric suburban service on the Key System in the San Francisco Bay area. . . . And, of course, other interesting articles and pictures.

Barclay fields began to peter out, and in 1900 Nature did the rest when severe floods completely wrecked the railroad. Fortunately, there was still need for a railroad, for the lumbering industry was just beginning to hit a boom stride. The Binghamton, Towanda & Western Railroad bought the Barclay Railroad, rebuilt it, and in 1902 consolidated with it, thus forming the present Susquehanna & New York Railroad. On August 27, 1903, the first through train chuffed out of Williamsport behind a Northern Central engine. At Ralston, three miles north of Marsh Hill, a Susquehanna & New York engine was attached to haul the train over the mountain into Towanda. At the time the Barclay Railroad was rebuilt and expanded, the tracks were laid to Marsh Hill, but the main line followed the tracks of the present Ralston Branch to Ralston. It is also interesting to note that during these first few years in the life of S&NY its mileage included the 15 miles of the Grays Run Railroad, operated as the Grays Run Branch. This branch, which was periodically shortened and finally abandoned altogether as the timber supply gave out, left the Ralston Branch, crossed over the Northern Central on a wooden trestle, continued south to Grays Run, and then went up to Cove Run.

For half a dozen years S&NY's sphere of operations was confined to the 43-mile main line between Towanda and Ralston. The officials, nevertheless, realized how important Williamsport was to their railroad, and in 1906 they began making plans to reach this lumbering center. A year later, with trackage rights over the Northern Central from Marsh Hill assured, S&NY embarked upon a program of improvement which included, among other things, the construction of terminal facilities in West Williamsport, the moving of the southern terminal of the road's main line from Ralston to Marsh Hill, and an eight-mile main line relocation between Ellenton and Short Run. On the first day of April, 1909, S&NY began running trains from West Williamsport to Towanda, a practice which lasted until May 22, 1942.

I'VE torn a page from the calendar since I started to tell you about the enjoyable one-day excursion my friends and I made over this Pennsylvania short line, and these last few words are being written on the first anniversary of that memorable event. One week ago today, as lengthening shadows heralded night over Lycoming Valley, the towerman at Bergan issued the last train order to the crew of a five-car S&NY train bound for West Williamsport, laden with the last few hundred feet of rail, spikes, fishplates, and tie plates of the little road's main line.

Perhaps it will comfort you to know that Pennsylvania's Public Utility Commission is still debating whether it shall permit Susquehanna & New York to abandon.

End of the S&NY.

This was the last of the Susquehanna & New York. Ex-Huntingdon & Broad Top Mountain Ten-Wheeler 119 is on the head end of the work train working from the northeast end of the Marsh Hill yards to the junction, removing the last traces of S&NY main line as it goes. In the foreground are the tie-ribbed remains of Marsh Hill yards. The six miles of S&NY main line between Towanda and Monroetown were purchased by the Lehigh Valley; hence this part will remain as long as LV continues its State Line and Sullivan Branch.

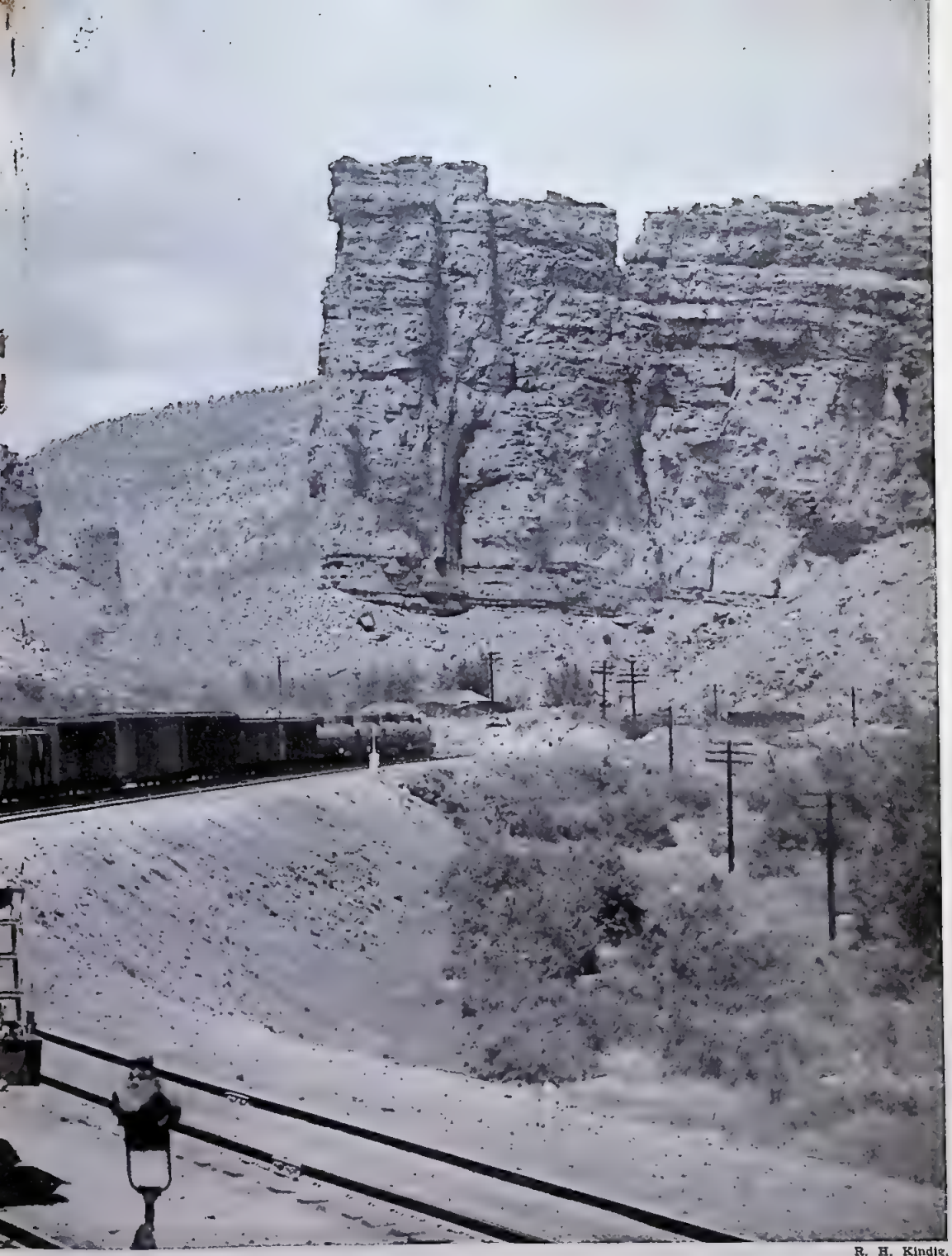
William Moedinger Jr.

Frank Quin.

Taking "19" orders on the fly.

Engineman and conductor of a Western Maryland freight train get their Form 19 orders at Deal, Pa., between Cumberland, Md., and Connelsville, Pa. Two hoops are used, one for the head end and one for the rear.

Down Soldier Summit grade at Castle Gate, Utah.



R. H. Kindig.

The ruling westbound grade on the Denver & Rio Grande Western main line is 2.4 per cent, just east of Soldier Summit, Utah, where the Grande crosses the Wasatch Mountains. The scene is at Castle Gate, some 21 miles east of the Summit, with the large rock gate from which the station takes its name standing sharply upright in the background. The rock gate is at right angles to the valley wall, a most striking natural phenomenon. The freight drifting down the grade is headed by one of the D&RGW's Baldwin 4-6-6-4 articulated locomotives. Photographer Kindig is now in the army.

Locomotives of the Future

★ Steam, Diesel-electric, and straight electric will all have their place in the rail service of tomorrow.

*By Charles Kerr Jr.**

RECENT years have witnessed a very extensive development in locomotives of all types—electric, steam and Diesel-electric. These developments have indeed captured the imagination of the traveling public, but we can confidently look forward to further progress.

During the depression years prior to our entry into the war, the American railroads, against great odds, performed a marvelous job of improving their service. When war conditions arrived, they were better prepared than any industry to assume the burdens placed upon them. For their outstanding contribution to the war effort they deserve the commendation of the entire nation.

In the future, this performance of the railroads is bound to place them in a far more favorable condition, especially in the eyes of the public. It will also create greater confidence in them as the paramount transportation system of the country.

* Transportation Application Engineer, Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pa.

Railroad Photographs, 47 Royal St., Allston, Mass. By Warren G. Fancher.

The Westinghouse Electric & Manufacturing Company, believing in the railroads and their future, is today developing, as rapidly as conditions will permit, apparatus for steam, Diesel-electric and electric locomotives of tomorrow. A brief review of these developments will afford a picture of things to come.

In general, the railroads of this country are operated by three types of locomotives: steam, Diesel-electric and electric. For years we have heard the merits of each type sung by its proponents, and have likewise heard that each type would some day supplant all others. Under present railroad operation and economic conditions, there seems to be no doubt that each type has its place, and each type will continue to serve for many years to come.

The rank and file of railroad operations are performed by the steam locomotive. There are many reasons why this condition should prevail. In the first place, the steam locomotive costs less than any other type, and in a large majority of railroad jobs, locomotives do not operate sufficient miles annually to warrant the higher first costs of other types. Second, the steam locomotive is getting better every day.

Conventional reciprocating locomotives are being built to develop approximately the following horsepower at the rail:

3 driving axles	3800 h. p.
4 driving axles	4500 h. p.
5 driving axles	5500 h. p.
6 to 8 driving axles	6000 h. p.

Further developments, such as the four-cylinder non-articulated type for high-speed passenger service, are taking place.

It is realized by many operators that future competition may force the railroads to handle heavy trains at speeds far above any now common. When speeds increase, the horsepower required of the locomotive goes up

very rapidly. For example, it requires 5000 horsepower to move a 5000-ton train at 50 miles per hour, but 10,500 horsepower to move the same train at 70 miles per hour.

Any radical increase in the horsepower of the reciprocating steam locomotive does not seem probable. The boiler size and axle weights are now at the permissible limits. Hence, the only avenue now apparent is through refinements in design, not through basic changes.

However, the direct-drive steam-turbine locomotive gives promise of retaining all of the basic features of steam generation, but effecting a more efficient use of this source of power. Modern developments in the marine field have succeeded in producing turbines and gearing capable of operating at very high speeds and of a type which offers definite prospects for application to the locomotive field. At the speeds marine turbines are now operating, they can be built for a weight of about one pound per horsepower, or a weight comparable to that of an airplane engine. Including the gearing, flexible connections to the axle and other auxiliary apparatus, the entire assembly can probably be built for around five to seven pounds per horsepower. Such weights are far less per unit of capacity than can be obtained by other classes of equipment.

When applied to modern locomotive boilers of around 300 pounds pressure and with superheated steam well within the limits of existing superheater design, the turbine offers a decided advantage by permitting greater output per pound of steam developed. This permits a higher horsepower from the same boiler and carries with it the attendant ad-

New Pennsylvania Class T-1.

Seventeen months before Pearl Harbor the Pennsylvania Railroad ordered from the Baldwin Locomotive Works two experimental steam locomotives indicative of the shape of things to come. These are of Class T-1, Nos. 6110 and 6111, wheel arrangement 4-4-4-4, and are used on passenger trains between Chicago and Harrisburg. These locomotives were built to avoid doubleheading on heavy trains and the specifications stipulated that they should be able to haul 880 tons at 100 miles an hour. Considerable preliminary development work was necessary. Raymond Loewy designed the prow-like front end. Each locomotive makes its 713-mile trip with only one stop for fuel. The loco nose on opposite page is the Pennsy 6100.

Courtesy Baldwin Locomotive Works.

W. H. Thrall Jr., 1023 N. Berendo St., Hollywood, Calif.

Diesel on the *Chief*.

Diesel-electric locomotives haul seven per cent of the country's passenger train mileage. Here is the Santa Fe *Chief* going over Cajon Pass with a helper. Steam trains also require helpers at this point.

vantage of fuel economy. The turbine also eliminates reciprocating parts.

Studies indicate that a turbine drive can be applied with considerable advantage to any type of wheel arrangement and any size of boiler now developed for steam service. When so applied, the turbine will likely offer an increase in high-speed output per pound of steam and per pound of locomotive of about 25 per cent over reciprocating engines. Its cost per horsepower in the larger sizes should not be far different from reciprocating engines. It should reduce locomotive and track maintenance expense.

The Westinghouse Company, realizing the advantages that may be possible in this kind of locomotive, over a year ago commenced the cooperative development of high-speed, high-capacity turbine locomotives. We expect this development to produce a steam locomotive for mainline passenger and freight service which will be a decidedly forward step in the steam locomotive field.

The newcomer, so to speak, to the railroad field is the Diesel-electric. From its first application to railroad service, about 1925, to the present day, it has continually increased in popularity until today there is some two million horsepower in service or on order. Its application has been to switching, mainline passenger and mainline freight services. The future will continue to see further applications to all these services.

In switching service, the most popular sizes are the 660-horsepower, 100-ton locomotives and the 1000-horsepower, 125-ton locomotives. Smaller sizes have become popular recently for the smaller railroad yards and industrial switching services. This type of equipment has been standardized to a considerable extent and has definitely proved its economy in rail service. In 1941, the Diesel locomotive performed 12 per cent of the total switching service on Class 1 railroads.

In high-speed passenger service, the Diesel-electric has continued to go forward. Its early application was on rail cars in very small sizes. Today passenger locomotive units of 2000 horsepower each are used, these same units being coupled in multiple to give 4000- to 6000-horsepower locomotives where the conditions demand. In 1941, Diesel locomotives in passenger service operated about 30 million miles, or seven per cent of the main-line passenger service of this country. This percentage is small, but the rate of increase is large.

In freight service, two-cab locomotives of 2700 horsepower and of 4000 horsepower, and four-cab locomotives of 5400 horsepower, are available. Up to January 1, 1942, a total of 237,000 horsepower had been purchased for freight service.

It is difficult as yet, in many ways, to truly evaluate the Diesel locomotive and its ultimate place in the railroad field. Some of its more ardent proponents claim that it will be the cure-all for the railroads. In the early stages of electrification, some enthusiasts made similar claims for it. Unquestionably, the Diesel locomotive will have a definite place in the motive power field, but it is most unlikely that it will exclude all other types of locomotive.

The future development of the Diesel locomotive is dependent largely upon the engine itself rather than the electric drive. In a 2000-horsepower locomotive of 1940, about 44 per cent of the total weight is engine and drive, or about 60 pounds per horsepower. The extent to which larger units can be constructed depends upon the ability to increase the speed of the power plant so that more capacity can be placed within the same space and for the same weight.

As the transportation industry has always been in the forefront with developments tending toward concentration of capacity, the same development is taking place in the Diesel-electric field. Developments in which the Westinghouse Company is now participating give every promise of a 6000-horsepower Diesel-electric locomotive in one cab in the near future. This locomotive, incidentally, will also include electric braking.

Thus, over a relatively short period of time, the Diesel engine has grown from a motive power unit suitable only for railcar operation to a unit for locomotive service in heavy-duty work. As the art of effectively using materials at high speed progresses, even further progress in the Diesel-electric locomotive will take place.

As a means of economically providing transportation at high speeds, no form of motive power can equal electrification. From the initial installation of electric operation in this country in 1895, and including the early operations of electric locomotives on the Baltimore & Ohio, New York Central, New Haven, and Pennsylvania railroads around the turn of the century, electrification has grown both in this country and abroad. It has reached its highest development to date in the Pennsylvania Railroad's installation connecting New York, Washington and Harrisburg.

Electrification is not the cure for all railroad problems, but as we see the place of electrification in the future, it will economically serve essentially two classes of service better than any other kind of power:

First: Heavy suburban service in the larger centers of population.

Second: Heavy traffic main lines which are so situated that they must be served by the best obtainable form of rail transportation.

The rapid expansion of the power facilities of the country and the general tendency toward lower price for electrical energy should promote the use of electric traction to a considerable extent. Electricity is the only fuel whose price trend is downward.

In 1941 over 50 per cent of the suburban traffic operated by Class 1 railroads was powered by electric motive power, principally by what we term multiple-unit cars. For this type of heavy-duty suburban service, electric operation has absolutely no equal in speed, removal of congestion, comfort and economy. As the metropolitan centers of population grow and become more congested, and the desire of the population is to spread out toward the suburban areas, there should develop in this field a growing place for rail transportation.

Modern developments in the city transit industry have shown that a very fast ride and a very comfortable ride can be produced with extremely rapid accelerating and braking rates when these rates are properly applied and controlled. These same developments have further shown that wherever this improved service has been offered, it

has been accompanied by a marked increase in traffic and has proved profitable.

Developments which are now under way give promise of producing the same kind of improvements in equipment for mainline suburban service. It seems to be "in the wood" to produce a mainline car capable of attaining a speed of 75 miles per hour in less than 60 seconds, with smooth acceleration throughout —and to produce this car so that it can be operated for a reasonable expense.

The average mainline suburban operation involves service where the average distance between stations is approximately 1½ miles. The new type of car I have mentioned, operating with a maximum speed of 75 miles per hour, can maintain a schedule speed of 40 miles per hour in this frequent-stop service, due to its ability to get under way rapidly and its ability to stop as quickly. No other form of metropolitan transportation, including the private automobile, can approach a 40-mile-per-hour schedule for the delivery of passengers.

The most comprehensive electrification now in operation in this country is that of the Pennsylvania Railroad, where heavy mainline passenger, freight and suburban operations are included. This electrification has not only met with every expectation in every way, but it has exceeded them. By this electrification the main arteries of commerce in the congested areas are provided with a standard of operation which would have been unattainable economically with Diesel or steam motive power. In this operation, fleets of passenger trains, ranging as high as 18 to 20 cars, are operated on unequaled schedules, employing locomotives capable of developing, when needed, outputs of 8000 to 9000 horsepower. Similarly, freight trains up to 12,000 adjusted tons are operated on schedules previously considered excellent for locomotive wheels of 13,000 horsepower.

While these attainments in motive power sound high, there is an expression often heard throughout our company: "We have never yet built a locomotive which the railroads have not been able to overload, sometimes before it even gets off our drawing board." While this statement borders on the facetious, there is really much truth to it, and any examination of the trends in railroad operation clearly shows that demands on locomotives continue to climb upward.

Realizing that larger locomotives will soon be required for heavy-traffic lines which can best be served by electrification, the Westinghouse Company is now developing apparatus for locomotives capable of maximum outputs of 12,000 horsepower, and possibly even designs which are no larger physically than present locomotives and within essentially the same weights.

The output of electric locomotives can be made roughly twice that of either the Diesel or the steam locomotive. This is made possible by the fact that electric locomotives draw their power from an overhead trolley which is backed up by a huge power system. Therefore, wherever the traffic is such as to warrant the utmost in rail performance, the electric locomotive can outperform any other.

The foregoing briefly covers the present status of motive power development in this country and also gives some indications of what the future may hold. The railroads of the country are primarily responsible and deserve the credit for this development, as they have been progressive always, and have encouraged the manufacturers to do what they have done. Because of this foresight in providing for the United States a rail service unequaled anywhere in all the world, the railroads are prepared to serve the nation today in the outstanding performance of all time, and the developments which they have promoted and perfected are serving in the war effort in thousands of ways.

One example of this is the ignitron rectifier. This type of mercury arc rectifier was developed for the New York Central Railroad. The development of this apparatus was a major factor in the ability of the aluminum and magnesium producing industries to expand their production to handle war needs.

The developments previously described are developments now taking place and which were, in the main, initiated prior to Pearl Harbor. It is always true that war stimulates many new developments, and these, together with more severe competition, will doubtless result in many radical changes both in railroad operation and in railroad equipment.

In all classes of manufacture, new materials or old materials hitherto restricted in use will be abundant. The aluminum capacity is being expanded three to four times the pre-war level, and similar expansion is taking place in

magnesium. Synthetic rubber or rubber substitutes will be available in greater quantities. New steel alloys and heat treatments, particularly the inductive heat treatment of steel, which have been developed for defense material are going to be available for commercial use after the emergency is over. This huge production capacity in peace times must force downward the costs of these materials and so make them available economically where costs had previously been prohibitive.

For one thing, the airplane will definitely become a more vital factor in commercial transportation. The aircraft manufacturers are designing passenger planes with capacity for 100 or more persons and are even now designing cargo-carrying planes for use in the future. On the ground, superhighways are beginning to cover the countryside.

These wartime developments are bound to have their effect on the transportation industry. To meet the competition of the airways and the superhighways, passenger speeds of 100 miles per hour may be commonplace. Roadbed, alinement, track structure and curvature must be modified to enable schedule speeds to more nearly approach the maximum speeds. Rolling stock will incorporate hundreds of new materials or new applications of old materials to give a smoother, less expensive ride. Locomotives must be capable of sustaining the required speeds over the entire profile.

In freight service, these developments will mean the operation of certain trains for high-class commodities operating on schedules approaching the best passenger speeds. Overnight deliveries of 1000 miles may be commonplace. This freight service will necessitate rolling stock and motive power of the same order as the best passenger service.

Unquestionably the railroads will see competition in the future from the developments now going on. This cannot be avoided. But this war has shown that the nation must have a well integrated transportation industry, in the forefront of which stand the railroads.

The railroad supply industry is one of the main contributors to the war effort, and will be in excellent shape to contribute the super-locomotives and the super-rollingstock to the super-railroads of the future.

New electric for the New Haven.

One of the five new Baldwin-Westinghouse electric freight locomotives now in service on the New Haven. These can readily be converted for passenger service.

Courtesy Westinghouse Electric & Manufacturing Co.

The "Ghost Train"

★ Resplendent in white with gold trim, famous limited traveled the New York-Boston run 50 years ago.

CHANCES are about ten to one that if you were in Boston on March 16, 1891, you were down at the old New York & New England Railroad station—or trying to fight your way through the crowds at the foot of Summer Street to get into the station—to catch a glimpse of a new Boston-to-New York Express which during its short but spectacular career won renown as the "Ghost Train."

Few trains have so caught the fancy of the public; few trains have given rise to so many romantic tales. Even today the mention of the "Ghost Train" conjures up pictures of an era when things were done in the grand manner.

There are many who will claim that the "Ghost Train" was not even a new train when it made its maiden run that Monday afternoon in March of 1891, but was just the original *New England Limited* "with a new paint job." There are equally as many who will challenge this claim, contending that the "Ghost Train" so decisively won a definite individuality that it had to be looked on as a new train.

Sticklers for accuracy might confuse things further by pointing out that "it" actually was two trains.

For many weeks prior to March 16, 1891, there had been much speculation about the *New England Limited.* Word spread that it was to be succeeded by a sensational new train. Other rumors had it that it would be the old train in a new guise.

Of the many rumors, one thing seemed certain—the new train would become the travel sensation of its era.

When the great day of its maiden run finally arrived, the curious were on hand to see history made. Sure enough, as had been rumored, the *Limited's* seven cars actually were painted white. Furthermore, they sported gold lettering and ornamentation.

As if that weren't enough, the appointments and decorations of its parlor cars, coaches, buffet smoker and dining car were the last word in the ornate splendor and opulence of the Gay '90s. But it was the striking exterior which made an immediate and lasting impression, one which was to call forth the name "Ghost Train." Less roman-

tic, and perhaps more faint-hearted, persons preferred "White Train" or "White Flyer."

At precisely 3 o'clock that memorable Monday afternoon, the new train chugged out of the station—situated on the site of the present South Station. Running nonstop to Willimatic, Conn., it covered the first lap of 86 miles in exactly 2 hours 15 minutes. This marked the beginning of its enviable "always on time" record.

Following the Air Line route via Willimantic and Middletown, Conn., stopping at those points and also at New Haven and Bridgeport, the "Ghost Train" made the New York run in just six hours. Unlike the Shore Line route followed by the New Haven's crack through trains today, the Air Line route did not touch Rhode Island at all.

In keeping with the spirit of the train's "debut," Conductor Michael W. Crowley and the brakemen and porters donned new white caps trimmed with gold bands.

Engineer Eugene E. Potter, famed for never having run a late train in his life, went them one better. In addition to a white cap, he sported a white coat as well. Passengers also found the color scheme carried out in the timetables.

A few travelers today still possess cards, bearing the name of the New York & New England Railroad, on which the following lines were printed in gold:

Spread the glad news wide and fast,
The White Train comes to town at last.
Such beautiful cars have never been seen,
Outshining in splendor the sun's bright sheen.

Without a jar, or roll, or antic,
Without a stop to Willimantic,
The *New England Limited* takes its way
At 3 o'clock on every day.

Maids and matrons, daintily dimitied
Ride every day on the *New England Limited*;
Rain or snow ne'er stops its flight,
It makes New York at 9 each night.

One-half of the glories have not been told
Of that wonderful train of white and gold
Which leaves every day for New York at 3
Over the NY&NE.

A colorful account of the introduction of the "Ghost Train" appeared in the Boston *Herald* for Tuesday, March 17, 1891, which said in part:

"Rolling out of the New York & New England Railroad station at 3 o'clock yesterday afternoon, the famous *New England Limited* took on all the glories that could be attached in a complete new train of cars resplendent in white and gold. For three months past items have appeared in the daily papers about a new departure in car decoration that the New York & New England Railroad was about to inaugurate, and yesterday saw the fulfillment of the announcements.

"The Pullman Palace Car Company has built for the service seven parlor cars, four passenger coaches and two royal buffet smokers. These cars are divided into two trains, owned respectively by the New England and the New York, New Haven & Hartford railroads. The New England road has provided a dining car of the same general design to run between this city and Willimantic.

Courtesy New Haven.

"The cars are all heated by steam direct from the locomotive, and are lighted by the Pintsch system of gas. The parlor cars are furnished with velvet carpets, silk draperies and white silk curtains; the chairs are upholstered in old gold plush, and large plate glass mirrors set off the car handsomely. Three of them have each a stateroom and 26 chairs in the main salon, while the other four have 30 chairs each.

"The royal buffet smokers which will be run in addition to the ordinary smoking cars are decorated in the same manner as the parlor cars and contain 20 handsomely upholstered chairs for the accommodation of parlor car passengers. Two card tables with stationary seats and writing desks with all needed stationery for letters or telegrams are also provided. The regular passenger coaches seat 60 persons each, and are comfortable and easy riding.

"The peculiarity of these trains, however, consists in the fact that they are painted white and delicately ornamented and lettered in gold. There has been considerable talk about this new departure, and the wisdom of it has been questioned.

"But Mr. Adams, at the February meeting of the New England Railroad Club, most thoroughly endorsed it, declaring that for years he had advocated painting passenger cars white, saying that 'their durability will be increased, the heat will affect them less and properly put on and taken care of, white paint will last longer than any other.'

"The train that left Boston yesterday had been heralded Sunday and crowds of people lined the route through the city and suburbs and gazed with mingled curiosity and delight at its handsome appearance. . . . "

One of the many interesting sidelights about the "Ghost Train" was that its dining car was the only diner ever operated out of Boston to have white waiters. It was "the" popular train of the shoe and leather trade of Boston.

The history of the "Ghost Train" may be traced back to the days when Charles P. Clark was president of the New York & New England Railroad. It was during his regime that the *New England Limited* was placed in service during 1884 as the first fast train between Boston and New York on the Air Line route.

This is the train from which evolved the "Ghost Train." There actually were two sets of equipment, enabling the simultaneous departure of "Ghost Trains" both from New York and Boston.

Though the locomotives would be dwarfed alongside the giants of today, they had a pressure of 145 pounds to the square inch,

Courtesy New Haven.

and made the nonstop run from Boston to Willimantic—86 miles—in 135 minutes.

A story has come down through the years that because of its "always on time" record, clocks and watches along the route were regulated according to the passing of the "Ghost Train." Engineer Potter was justifiably proud of his "on time" and "no accident" record.

A study of Potter's records discloses two amusing anecdotes jotted down in his own somewhat old-fashioned handwriting. The first tells of a record he set because of his anxiety to maintain his "on time" record.

On this occasion the train was 25 minutes late reaching Willimantic from New York. That same day Potter had been notified by the division superintendent that under no circumstances should he make up more than 20 minutes' time between Willimantic and Boston.

"Receiving the train 25 minutes late that night meant I must arrive 5 minutes late at Boston. That thought was in my mind, with the (superintendent's) message in my pocket as I started the train out of Willimantic. At that moment, a trainman jumped on the step of the engine and yelled to me—'President Clark is on the train and told me to tell you to make Boston on time.'

"I did so. On reaching Boston, President Clark said with a smile—'That's a great ad for the train,' and handed me a ten-dollar bill and the fireman (Frank Bagley) a five-dollar bill. Next day the superintendent called me to his office. On the way I met President Clark. He said the run the night before was worth a lot to the road. I told him I was 'in the soup' over it, and showed him my summons to the superintendent's office.

"'Oh,' he said, 'I'll go see him in your place, if it's all right with you.' He was a good substitute, I'd say."

The other anecdote is also in a humorous vein. Running nonstop from Boston to Willimantic, Engineer Potter "saw on the track in the distance what looked like the back end of a hack. Approaching nearer I discovered it to be a very large woman, wearing a black cape, bent over picking up coal on the track. I kept sounding the alarm whistle, applying the brakes as well. As it was a standing rule to slow at this point to a speed of 20 miles per hour on account of a reverse curve ahead, I was able to stop the train just before reaching the woman.

Courtesy New Haven.

Interior of "Ghost Train."

Dining and parlor cars of the famous white train. Notice portieres in diner and drapes in parlor car.

"She was still on the track, picking up coal, when I got off the engine and took her by the arm and asked her why she was there holding up traffic. 'Sure and I'm holding up nothing but me basket of coal,' she replied testily. I pointed to the train, which she evidently had not noticed. At this she exclaimed, 'Begorra, this is the second train that has stopped me picking up coal today'."

The famous "Ghost Train" made its last run October 20, 1895, and was succeeded the next day by the *Air Line Limited* from Park Square Station via Dedham. The end came because of the excessive cost of keeping the all-white equipment spotless. Veteran railroaders recall that a crew of 17 cleaners and helpers was required to clean cars at the end of each run.

$72,000 a Day

★ Washington Union Station surging to top as busiest and highest revenue producer in the country.

By E. L. Thompson.

According to Walter Winchell, the biggest boom city in America today is unquestionably Washington, the nation's capital. And one of the busiest and most important railroad spots in the country is Washington Union Station, whose ticket sales topped 2¼ million dollars in July, 1942, an average of $72,000 a day. Hub of throbbing crowds—soldiers, sailors, marines and big businessmen, as well as average working persons—this is easily the most important and strategic terminal during these crucial war times.

The traveler who passes through Washington Union Station today will hardly recognize it as the same place he saw several years ago. The story which appeared in this magazine in December, 1940, is just about obsolete. Other cities have seen revivals in train travel, have had to add additional help, train service, equipment, etc., but in Washington they talk in terms that are mighty big.

For all of the activity in New York's Grand Central and Pennsylvania stations, they will have to take a back seat when it comes to the hustle and bustle of Washington. It is not uncommon for around 130,000 persons to

Twenty-two new ticket windows handle the wartime crush.

pass through the station on a good Saturday or Sunday (and practically none of these are commuters), and the daily average through the Summer of 1942 was 105,000. With a sale of approximately 10,500 tickets every day, you can begin to get some idea of what is doing. And if that makes no impression on you, remember that 14,000 persons use the telephone booths, 7000 go to the restaurant, 2000 use the U. S. O. lounge, and the information bureau handles 80,000 inquiries—all in one day. Approximately 4000 persons are employed in the station and on the terminal property.

The city of Washington had a population of some 330,000 in 1920, 437,000 in 1930, 663,000 in 1940, and in the waning months of 1942, greater Washington's population has reached the 1¼ million mark. (The city limits of Washington cannot be pushed outward, since neighboring counties of Maryland and Virginia surround it on all sides. Otherwise Washington proper might well have this figure alone). With a majority of the new population working for the government on a temporary basis, as well as the tremendous number of persons moving to and from the nation's capital on war business, you can immediately grasp the reasons for this boom in railroad travel, even without considering gasoline and tire rationing.

One of the real beehives of activity is the ticket office and closely associated information and reservation bureaus. The number of employees has soared to heights which would have been believed impossible even a year ago. The force now consists of 451, which figure includes 121 ticket sellers, 110 information clerks, 125 reservation clerks, 20 message clerks, 40 accounting, and others. With the exception of the ticket sellers, the majority of them are women.

A glance at the illustration of some of the new ticket booths will give you an idea of the size of the new information bureau. It was formerly an oval, in which three—or maybe four—men could work at one time, and less than 10 years ago business had

The 760-foot-long concourse could hold 25,000 people at one time.

All photos by Paul M. Schmick.

reached such a pitiful state that the booth was cut out entirely, and a sign reading "Information" was hung over ticket window No. 1. In between answering occasional inquiries, the man behind this window used to help file tariffs or perform other incidental duties.

Here are some cold figures for digestion. During the month of July, 1942—which was generally considered to have been "tops" in the history of the Washington Union Station—the ticket sales amounted to $2,225,000—a daily average of nearly $72,000. When you stop to remember that July of 1941 was a good month (well over July, 1940), and learn that the revenue then was $917,000, you can quickly figure a 134 per cent increase. Ticket sales soared from 161,000 in July, 1941, to 324,000 in July, 1942—up 101 per cent.

Washington Terminal men proudly point to their record day of July 3, 1942, when the ticket sales grossed more than $130,000. A good average Summer day ran around $60,000, although by Fall there were light days when the receipts fell as low as $40,000.

Ticket windows are placarded to expedite service. Some of them sell "Pullman tickets only," "Coach tickets only"; still others sell "Coach tickets to points on the Baltimore & Ohio and Pennsylvania." On Friday, Saturday and Sunday afternoons, the counters which are used for "checking in" Pullman passengers at night flaunt signs reading "Coach tickets only to Baltimore, Wilmington, Philadelphia, Newark and New York." The turnover is quick here, and the newer employees may be used without jeopardizing the service.

And where can all of these tickets be sold? Before the boom there were 15 regular ticket windows, and away back in the twenties there were eight additional Pullman ticket windows. These latter were again placed in service for both coach and Pullman tickets. Temporary booths were placed strategically throughout the west end of the station, and then a big new group of 22 windows running all the way across the station was put into service. Behind this is the equally long information counter. So where formerly the ticket agent could place 15 ticket sellers on duty at once, he is now able on busy weekends to have a maximum of 62 men and women to help take care of the crowds.

Office rooms on the second and third floors, which had been idle and dusty for years, came back into service. The ticket office ac-

The Union Station.

Here is a new view of the Washington station, with the new cab unloading portico nearing completion. Notice cabs en route to portico.

counting department took over the entire west side of the top floor—this, incidentally, causing the removal of the model railroad which was being built by the Metropolitan Society of Model Engineers. The reservation diagram room was air-conditioned, and, because of the large number of female employees, new rest-lounge rooms had to be built. All new equipment was added to assist in expediting the handling of space, and accommodations were tripled. At one end, a new government reservation bureau was installed for war agency "must" travelers. Teletype machines were added, to assist in keeping pace with the large volume of wires requesting space.

The reserving of coach seats on a number of trains causes much additional work for the reservation bureau, although the *East Wind* is now off for the duration, and the B&O has discontinued this practice on three out of five trains.

The telephone and telegraph departments on the east end of the third floor have expanded nearly three times, to meet the demands not only of the public but of the railroad city ticket offices, whose forces have likewise grown in leaps and bounds.

Easier reading lights were installed in the waiting room. Fluorescent lighting is standard equipment now in both the men's and women's lounge rooms and toilets. These have been completely done over and equipped with the finest and latest gadgets. Showers are also available in the men's room. And supplementing this, of course, is the barber shop and bootblack parlor, and these two have gone modernistic and been streamlined.

A public address system was installed on a temporary basis last Christmas and proved so helpful that it was put in permanently. While it is not used to "call trains" (except in emergency), it is a big help in locating employees, passengers, police, or MP's. Sometimes a passenger and red cap become separated, and this system more often that not will locate the passenger and his baggage before train departure.

The weary and aged passengers no longer complain about trudging up and down the steps for the low-level trains, as there are now escalators. While this is not a new feature in the country, very few stations can boast of them.

Enlarged facilities have been provided for the Traveler's Aid booths, and a U. S. O. booth has also been added. The old State Suite was made into the U. S. O. lounge for service men.

Other departments have their headaches too. The police department has expanded by leaps and bounds, and the red-cap situation is really acute. The draft is taking many men, and the attractive government positions lure others away from the station. Like so many industries of today, the Union Station has had to resort to advertising in the newspapers for help—particularly for the ticket office. And no sooner are the new employees broken in than many of them move on again.

The baggage situation was becoming more and more confusing, and while the lower baggage room is still large enough to take care of almost any situation which might occur, it was at the checking and parcel counters where the congestion was really bad. These

facilities were tripled, and the help quadrupled, and on top of this there are more than 1000 of the "drop-a-dime-in-the-slot" lockers scattered all over the station.

Public telephones have come in for their share of expansion, with facilities more than doubled by the addition of another PBX board. In addition there are many straight coin telephones to relieve the congestion.

Several years ago Savarins sold out the restaurant concessions to the Gateway Company (Union News) and gradually there were some extensive improvements. The old dining room was converted into three horseshoe lunch counters, a small dining room and a lounge-waiting room, which is now used for cocktails during busy hours. Then they took the old lunch counter section and modernized it into a fine dining room and cocktail lounge. Both rooms were air-conditioned, with all new conveniences, even to musical interludes.

At the time these improvements were made, one saw waitresses standing around, gossiping or anything else to kill time. Now all is different. If you can get a seat without waiting—even during the slow hours of the day—consider yourself fortunate. Large groups of soldiers, sailors and marines must be fed, and they come first.

For the furloughed men, Gateway has erected a canteen out on the concourse, and here 5- and 10-cent prices prevail. And, of course, there is still the Coffee Shop, whose seating capacity of 24 makes it so insignificant as to be hardly worth mention.

That the restaurant business is good is evidenced by this specimen of a few items which will be disposed of on an average day: 3000 pies, 1200 loaves of bread, 400 pounds of ham, 120 pounds of cheese, and 50 gallons of ice cream. And as mentioned earlier, an average of 7000 persons use the restaurant daily.

Regularly scheduled trains total about 125 in each direction, or 250 altogether. Extra sections are numerous, particularly on the Pennsy's Washington-New York line. The recent O. D. T. order froze extra sections, unless operated 20 per cent of the time during the preceding three months. Since this period covered the peak Summer months, the Washington railroads should not suffer too much—provided, of course, they can get the equipment.

Some relief is afforded, for many of the troop trains through Washington bypass the station, and of course there will be few Winter season trains to and from Florida this year.

Commuter travel in and out of Washington is a minor feature. Aside from half a dozen trains arriving in the morning and a like number out in the evening, this travel is unworthy of mention. Recently, with the gas and tire rationing, some of the local trains have picked up 200 and 300 per cent, but their loads will still not top 200 passengers, a small number for trains of this type.

Just prior to the boom period, five additional mail tracks were installed on the east end, these being numbered 31 to 35 inclusive. A sixth track is soon to be added. Former tracks 31 and 32—which were team tracks—have been placed east of the main tracks. Eventually mail will be carried to and from the new section by a continuous belt direct to the post office. The installation of these new tracks resulted in the releasing of tracks 1 to 4 inclusive for other purposes, so that now 28 tracks are used daily for scheduled passenger trains (tracks 1 and 30 are the exceptions).

Trains frequently run late in these times, and it is not uncommon for groups of trains to be trying to arrive or depart about the same time. This causes many additional headaches for the operating men, for much of the interlocking layout was designed for far-shorter trains than are the practice today.

The complete installation of color-position signals throughout the terminal property was completed within the past year, and much new 152-pound rail had been laid before that, to insure better riding qualities for the giant GG-1 electric engines of the Pennsylvania. This, together with the lengthening of many of the platforms, was just in time for the big boom.

Life at the Ivy City engine terminal is just one continuous dispatch of locomotives. Everything that can still run has been pressed into service. Additional freight trains have also caused extra work here, although this is primarily a passenger-engine roundhouse. B&O engines are moved via their own wye track and backed into the station, to relieve tieups on the regular engine tracks. This is an arrangement which used to be placed in effect during peak periods such as at inaugu-

Arrival bulletin is of great interest.

Trains frequently run late in times of war, and as a result the arrival board is consulted more frequently than during times of peace. Photographer Paul M. Schmick wanted the board to show in this picture, so he shooed away some of the crowd. During the morning rush it is nearly impossible to get close enough to reach the bulletins, and a short person hasn't a chance.

ration and Christmas, so that the terminal officials had a precedent to follow.

Many improvements have been perfected to increase the operating performance. The Washington Terminal fleet of switch engines has been augmented by additional Consolidation locomotives from both the B&O and Pennsy. On extra-busy days, when the Pennsylvania is operating sections of New York-Washington trains, locomotives are placed on the other end and the train doubled right back. For instance, the all-coach section of the train due from New York at 2:25 p.m. will operate right back as an extra section of the 3 o'clock train. In addition to conserving equipment, this lessens the congestion in the coach yards. And the B&O is cooperating by making up many of its through trains in the less-crowded yards of Baltimore and moving them through Washington solid, even though many of the cars will cover the 37-mile run practically empty.

Taxicabs were always a problem, and the old west end is now used exclusively for loading purposes. All around are signs encouraging you to cooperate with the tire and gas shortage by pooling cabs. Unloading is performed in front, and a large portico has been installed to protect passengers from the weather.

Traffic conditions around Columbus Circle in front of the station were a real headache to police and traffic officials. An entirely new arrangement was instituted, using different lanes for traffic destined into the station from that normally passing on Massachusetts Avenue. This causes some tieup while cabs and private vehicles are unloading, but relieves the main arteries of the city. Pushing all of this traffic directly in front of the

Not pinball machines, but the "innards" of K Tower.

K Tower, with 172 working levers, is center of operations at the Washington Union Station. This view shows a portion of the giant track diagram which tells the operators what tracks are occupied, what tracks are clear. The three men in the foreground are levermen; the four in the background are train directors, all on active duty when the photo was taken. The "pinball machines" chalk up a score of 250 regular trains each day, plus numerous extra sections.

station caused a dangerous condition for pedestrians, and four policemen are on continuous duty to make sure no one dashes in front of the automobiles in an effort to board a street car or bus.

All sorts of chaos occurs in the station. Whether you are trying to get a haircut, shave, shoeshine, or to wash your hands, buy a "coke," get a newspaper, a street car, a bus or a cab, or trying to check your bag, find a red cap, buy a ticket or eat a sandwich or meal, you are always running into jams. You can't even walk through the station in anywhere near a straight line. Sunday night is servicemen's night, and the depot looks more like an army camp than a railroad station as MP's scatter all through the station to assist in preserving order.

Back in December, 1941, Pennsylvania Station in New York was doing one-third more business than Washington Union Station. But this included the Long Island, which is practically a 100 per cent commuter line. The accounts at Grand Central in New York are kept separately as between the New York Central and the New Haven, but even putting them both together and eliminating commuter tickets, the Washington Union Station was well ahead in revenue. And as just mentioned, eliminate the Long Island commuter travel from Penn Station, and again Washington is tops. So, barring the commuter revenue, Washington is undoubtedly the busiest and highest revenue-producing station in the country—even if it took a war to put it on top.

We will make no effort to describe the station itself in detail. This has all been covered in a former issue of TRAINS, and in addition several excellent maps appeared at that time. This has only been a summary of life in wartime at this busy place. Perhaps the picture presented has been sufficient to give you some idea of what the biggest boom city in America has done to make the Washington Union Station the busiest in the land.

Diesel electric and steam locomotives "team up" on heavy Great Northern trains in the Rocky Mountains. The Diesel engine seen in this picture consists of three units and is rated at 4,050 horsepower.

"Keeping Fit" BECOMES RAILROADS' No. 1 PROBLEM

Production and transportation go hand in hand. Every increase in production requires more transportation.

But the materials needed to provide more transportation—or even to keep present transportation services at peak efficiency—are in almost every instance vital war materials.

Steel particularly is sorely needed to build cars and engines, to repair and replace old equipment, and to replace and maintain tracks.

How much longer the railroads will be able to carry the continually swelling volume of war traffic without serious interference with civilian requirements depends largely on whether they can get enough steel and other materials for their most pressing needs.

The rubber shortage has turned freight and passengers from highways to railways. Freight which formerly moved between the east and west coasts by water has of necessity shifted to the rail lines.

Every railroad car today is carrying a heavier load and traveling more miles per day than ever before. Shippers, government and railroads are pulling together to get every ounce of efficiency out of the nation's railroads. Reserve capacity, nevertheless, is running low, while wear and tear is taking its inevitable toll.

This gigantic transportation job—unparalleled in all history—is being performed so smoothly that there is an alarming danger of its being taken for granted—of needed materials being withheld until the railroad machine begins to skip and falter—until it is too late to make replacements before serious failures in railway service have occurred.

The Great Northern railway, for its part, has not and will not ask for a single pound of steel or other critical war materials that it does not need in order to continue to perform its part in the war program and to safeguard the war effort.

GREAT NORTHERN RAILWAY

Letters

★ Interesting sidelights on railroads as readers observe them.

"Railfans On Parade."

I READ the article "Railfans On Parade" in the September 1942 TRAINS with nostalgic interest, since that wonderful ride was also my own first "fan" trip.

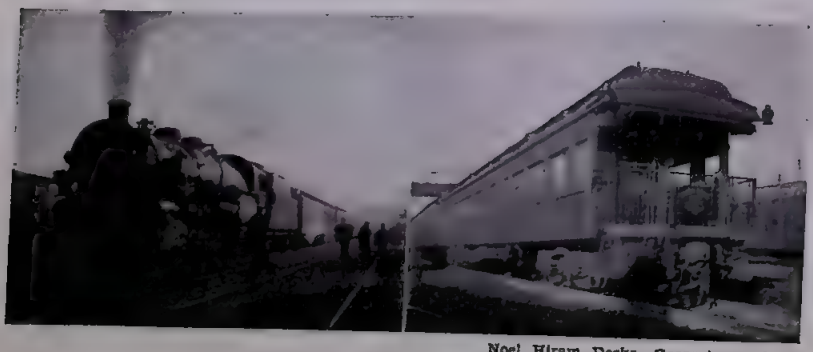
I remember arriving at the Jersey City terminal hastily. Perhaps I was the short, fat man with a camera that the article referred to. I used the camera to take a picture of the *Fan Special* before boarding it, none too soon, for hardly had I settled in a seat than we started to move and our thrilling adventure began.

As the trip out was thoroughly covered by Mr. Kincaid in his article, I will dwell chiefly on the return trip except for two points. The first concerns the trackage to Newark Bay and across the meadows past Oak Island Yards, which our *Special* was supposedly the first passenger train to use. I believe these tracks were used during the last war by trains carrying workmen to Port Newark shipyard. I'm not certain of this. I worked in those yards then but I came in the other way, from Newark.

The second point is about the group "glued to their seats" on the observation platform. They became unglued at Sayre and went off to see the shops. Just before the return trip I took a photo of the rear platform, quite vacant, after which I climbed aboard and helped myself to one of the coveted seats, nor did I stir from it again until we disembarked at Penn Station many happy hours later.

The sun was setting as we left Sayre and soon the twilight faded and one by one the stars came out to watch as our high-speed locomotive drew us swiftly along the valley. Presently we passed through the 3900-foot Cosburg Tunnel, which was somewhat of an ordeal. The smoke and cinders drove most of the others inside, but, fearful of losing my seat so soon, I tied my handkerchief over my face and breathed as little as possible. The cinders bombarded me from all sides and sifted down my neck in spite of my upturned collar. I was glad when we came out under the stars again. After we had passed Mauch Chunk the moon rose, bathing the mountains with soft light. As our train sped along I sat there taking it all in: the rush of the cool, crisp Autumn air, the slight swaying of the car, the rapid clickety-clack, clickety clack, clickety-clack of the wheels over the rail joints, the faint thunder of the exhaust from our engine far up ahead, the ceaseless blur of landscape slipping by to take sudden shape, grow swiftly smaller and vanish in the darkness. I was comfortable, content and supremely happy; nor would I have changed places with any king!

My companions on the platform were discussing a fast westbound train which we were due to pass. Those experts knew the train number, the engine number, the conductor's and engineer's names, and if they had mentioned the sizes of their socks I would have believed it. These boys knew everything. They had figured to the second when the two trains would pass each other and several risked the flying cinders to peer ahead along the track. They spied her headlight almost at once. There was a murmur, a rumble, and then, with a sudden tremendous roar and clatter and rush of wind, the



Noel Hiram Deeks, Georgetown, Conn.

Railfan Special.

Front and rear of the Lehigh Valley fan trip train to Sayre, subject of an article in the September TRAINS and the accompanying letter by Photographer Deeks.

RESOLUTION FOR AMERICA

This year must be the year of decision.

This year, all over the world, *America fights.*

Our factories and farms are producing the materials to make that possible.

Our ships, planes, guns, tanks, are taking swift shape in numbers to accomplish conclusive results.

These things must now get there—get where they're needed, where they will be felt—get there swiftly, on time, without fail or falter.

The railroads have a part in that job—a big part.

They accept it.

They could do with more engines, more cars, more everything when materials can be spared for them.

Until then and after, railroads and railroad men will continue to work as they never worked before to get the job done.

If, now and then, that means inconveniences to you as a traveler, we are sorry. We are trying to avoid that, too.

But guns and the men who use them must come first.

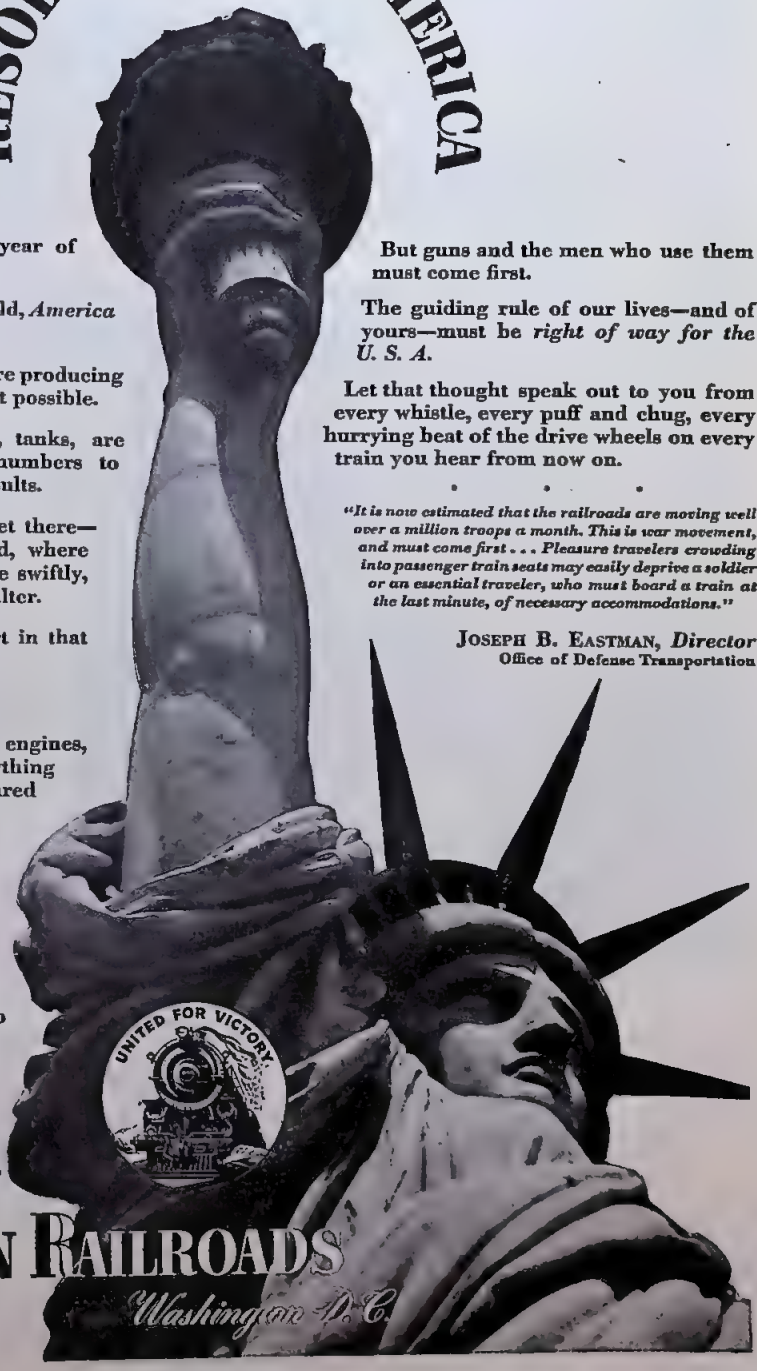
The guiding rule of our lives—and of yours—must be *right of way for the U. S. A.*

Let that thought speak out to you from every whistle, every puff and chug, every hurrying beat of the drive wheels on every train you hear from now on.

• • •

"It is now estimated that the railroads are moving well over a million troops a month. This is war movement, and must come first . . . Pleasure travelers crowding into passenger train seats may easily deprive a soldier or an essential traveler, who must board a train at the last minute, of necessary accommodations."

JOSEPH B. EASTMAN, *Director*
Office of Defense Transportation



Association of
AMERICAN RAILROADS
Washington, D. C.

Express was there—and by—and gone!

At Bethlehem they did a bit of switching with our train. Several cars of Philadelphia railfans were bound for that city over the Reading Company's Bethlehem Branch.

A large switch engine came slowly toward us, feeling her way along in the darkness. She nosed up to where we were sitting and peered down at us with her weak headlight (purposely dimmed so as not to blind us) through the smoke swirling from her own stack. After a sniff or two and a few pants of her air pump, she drew us back along the track, very quietly and gently, as though we were so many fussy financiers instead of a handful of thrilled railfans, blissfully drinking in every whiff of smoke and steam and engine oil her hot breath blew on us. She took us back and forth several times, to our delight, before we coupled onto our train again.

Part way across Jersey we stopped out in the open country and whistled out a flag. We were there quite some time. Don't ask me why, although I heard someone say, "Hotbox."

After that our train fairly flew. I don't remember ever seeing the telegraph poles click by so rapidly, like pickets on a fence, and all too soon we approached New York again. The ride under the Hudson was entirely smokeless and cinderless and presently I stepped off in Penn Station. As soon as I reached home I had a hot bath. My wife claims she found a heaping tablespoonful of cinders in the drain trap next day. Maybe so; it felt more like a heaping shovelful to me. But—oh,boy!—it was worth it.

Noel Hiram Deeks.

Georgetown, Conn.

[Our September article described a fan trip as viewed by an outsider.—*Ed.*]

Stewartstown Railroad's Weekday Mixed Train.

THE engineer of the Stewartstown Railroad's weekday mixed train always runs No. 6 backward so that the cab is in front. Barely visible at the end of the train is the passenger car, improvised from a box car. The railroad owns one steam locomotive, which is stored for emergency use.

William Moedinger Jr.

23 E. Vine St., Lancaster, Pa.

[The Stewartstown Railroad opened its original 7.2-mile line from Stewartstown to New Freedom, Pa., in 1885. In 1922 it merged with the nine-mile New Park & Fawn Grove Railroad Company, retaining its original name. The merger was ratified by the I. C. C. in 1925. The Stewartstown has connections with the Pennsylvania Railroad at New Freedom.—*Ed.*]

Courtesy.

TRAVELING by train the other day, I noticed an unusual little act of courtesy that was quietly appreciated by the recipients yet caused little inconvenience to the donor. An elderly couple got on and walked the length of the car, evidently looking for a seat together. No double seat was disengaged, although there were at least a dozen occupied by one person.

Just as the couple were about to go into another car, and the whole train was probably equally filled, a young man stepped forward out of his single seat, offered it to them and located himself elsewhere. Shouldn't this be more customary?

George A. Cromie.

New Haven, Conn.

[Men who go into smoking lounges for most of the trip can be courteous by not saving empty coach seats for their return.—*Ed.*]

If it's got wheels —get it rollin'!

★ *Lower Away! Giant 3768, a Santa Fe mountain-type locomotive, gets new Victory wheels, including 90" drivers.*

★ On the Santa Fe today, if anything has wheels on it, and is capable of rolling, it's rolling. *It has to!*

For this war, beyond all precedent, is a war of mass transportation, a war of wheels.

Stop these wheels, and we stop all that floats and flies as well.

That is why military need *must* have first call on all railroad facilities. Why every locomotive, from giant Diesels to little "yard goats," *must* be kept conditioned for record-breaking performance. Why old engines, long retired, are back in active service. Why "If it's got wheels, get it rolling!" is a watchword on *every* American railroad.

KEEP 'EM ROLLIN'—OR ELSE

No nation that does not possess efficient mass transportation can hope to win a modern war. In America that mass transportation job is squarely up to her railroads. *If they fail, we lose!*

Neither battle gallantry nor industrial wizardry alone will turn the tide. To meet this tremendous responsibility, *we ask for every possible consideration in the allocation of materials for vitally essential repairs, maintenance and new equipment.*

DAILY THE LOAD INCREASES

To date, the railroads have met 100% the staggering demands born of this global war. Many have helped make that record possible—the War Department, the Office of Defense Transportation, civilian shippers and travelers everywhere.

In the first nine months of 1942, Santa Fe freight locomotives averaged 84% *more* miles per day, and there were 37% *less* unserviceable freight engines, than in the first 9 months of 1918, in World War I. ★ Daily the load increases. No man knows what the peak will be. We *do* know there is a limit to the performance that can be squeezed out of existing equipment.

Santa Fe

Serving the Southwest for 70 years

SANTA FE SYSTEM LINES

The Month

★ Airline chief agrees that planes can't replace rails.

★ William Allan Patterson, president of United Air Lines, recently spiked rumors regarding the freight plane replacing the freight train in the future. One statement was made during the early part of 1942 that 45,000 planes similar to the Ford bomber type could have handled the 500 billion ton-miles of freight carried by the railroads in this country in 1941. Instead, Mr. Patterson shows that 600,000 planes would be needed; 2½ million pilots would be required to fly them; an airline personnel of 20 million people would have to be employed; 122 billion gallons of gasoline a year would have to be supplied, and that amount is 2½ times the entire world's gasoline cracking production before the war. Such figures have not been pulled out of a hat but are the result of United's research efforts and Mr. Patterson's years of freight traffic experience. He believes that after the war keen competition will exist between railroad and air line for passenger, mail and express business but that air lines will promote freight-by-rail policies rather than make an attempt to divert such transportation from the railroads.

★ The mainline trackage of the Mexican National Railways is rapidly being rehabilitated with the aid of the United States government, whose agencies have purchased a long list of strategic Mexican commodities urgently needed by the U. S. for the manufacture of war equipment. Such purchases started the negotiations which have resulted in the MNR cooperative improvement program. Oliver M. Stevens, president of the American Refrigerator Transit Company, formerly executive representative of the Missouri Pacific in Denver, Colo., heads the United States Railway Mission in Mexico.

The initial program as outlined by the United States ambassador to the Mexican foreign minister calls for improvement of these lines: from Neuva Laredo (just across the Rio Grande from Laredo, Tex.) south to Monterrey, Saltillo, San Luis Potosi and into Mexico City; the east-west line from Torreon to Paredon and into Monterrey; north from Torreon to Chihuahua; the main line south from Cordoba to Jesus Carranza to Ixtepec and into Suchiate, at which point connection is made with the International of Central America by a bridge just recently completed. United States aid to Mexican railroads will not cease upon completion of these improvements. Requests have been made that the railroad technical staffs of Mexico be strengthened by a limited number of specialists who will examine other Mexican railroad lines and advise as to what improvements are necessary to achieve maximum efficiency for their operation.

★ Director Eastman of the O. D. T. has issued a plea that pleasure travel by rail be held to an absolute minimum for the duration. When it is necessary to travel, crowded routes should be avoided and alternate routes chosen. These routes can be ascertained by contacting any of the railroad passenger agents found in all large cities, who represent nearly every passenger-carrying railroad in the country. In small towns the station agent will get the information for the traveler.

★ Thirty years ago the Amazon rubber boom resulted in the building of a railroad in the interior of the Brazilian tropics. Started in 1907 and completed in 1913, the 228-mile Madiera-Mamore Railway twists and turns its one-meter-gauge single-track way between Porto Vehlo and Guajara-Mirim, on the Bolivian border, by-passing rapids and cataracts on the Madiera and Mamore rivers. Operated by the Brazilian government, this railway takes on new importance because of an inter-American cooperative program designed to develop rubber resources in this hemisphere. At present the M-M runs one train a week between terminals and this is accomplished in about four days. Listed on its roster are 14 locomotives (two of which were purchased in U. S. in 1940), 184 freight cars, and 10 passenger cars.

★ One additional daily train for passenger service has been permitted by the O. D. T. between Chicago and Miami. The train includes both Pullman and coach accommodations and will operate on alternate days on the three routes now scheduling Chicago-Miami streamliners. This is for the benefit of Winter travel and the increased service offered by the extra train eases the O. D. T. general order No. 24 which resulted in "freezing" many passenger schedules.

★ On November 29, the New Haven inaugurated a "box lunch bar" in Grand Central Station, New York, and later installed one in South Station, Boston. Primarily planned to serve homeward-bound Thanksgiving travelers with an easily purchased box lunch and so to ease the strain on dining cars during heavy holiday travel, the venture far exceeded expectations. The "bar" is an attractive blue and white wagon, readily wheeled from platform to platform, and three attractive waitresses are in attendance. This innovation will continue during peak travel periods and if the demand is heavy enough the NH may continue the service at other times.

★ The most distinguished passenger to make an extended trip on U. S. railroads during 1942 was President Roosevelt. He traveled 8396 miles on a tour of inspection of war industries, and his pleasure in the trip and appreciation of the efforts by railroad men in making it a success were expressed in an exchange of letters between Stephen Early, secretary to the President, and J. J. Pelley, president of the A. A. R. Mr. Early remarked that it was the opinion of "a record-breaking traveler" that never before had he "moved from coast to coast, from border to border, with as much ease and comfort, rest and enjoyment."

Edgar J. Kunze, 6952 N. Wolcott Ave., Chicago, Ill.

Sand, water, and oil.

Three pipes and no chutes supply engines in oil-burning territory. The left-hand standpipe is the practically standard type used for water, the center one is for oil, and the pipe with overhead cylindrical tank is for sand. The engine is a Rock Island Mikado at Limon, Colo., junction point of the Colorado Springs and Denver lines.

On the front cover.

First 27 of the Union Pacific is the *San Francisco Overland Limited*, in this case pulled by one of the 800-series 4-8-4's and stopped at North Platte, Neb. Both the "1" on the train number indicator and the green flags atop the smoke box show that another section is coming: the *Los Angeles Limited*, sometimes consolidated with the *Overland* as far as Ogden.

Norman E. Kohl, Locust Ave., Glen Head, N.Y.

Identical triplets, three series G-5 Ten-Wheelers of the Long Island Railroad, stand on the engine terminal tracks at Oyster Bay, L. I. These engines, with their relatively high starting tractive effort, are ideally suited for heavy commuter trains.